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ISAAC WATTS. D.D.

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LOGIC:

OR, THE

RIGHT USE OF REASON,

IN

THE ENQUIRY AFTER TRUTH,

WITH

A VARIETY OF RULES TO GUARD AGAINST ERROR
IN THE AFFAIRS OF RELIGION AND
HUMAN LIFE, AS WELL AS
IN THE SCIENCES.

BY ISAAC WATTS, D. D.

A NEW EDITION, CORRECTED.

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TO

SIR JOHN HARTOPP, BART.

SIR,

IT is fit the public ſhould receive through your hands what was written originally for the aſſiſtance of your younger ſtudies, and was then preſented to you.

It was by the repeated importunities of our learned friend Mr John Eames, that I was perſuaded to reviſe theſe Rudiments of Logic; and when I had once ſuffered myſelf to begin the work, I was drawn ſtill onward far beyond my firſt deſign, even to the neglect, or too long delay of other preſſing and important demands that were upon me.

It has been my endeavour to form every part of this treatiſe both for the inſtruction of ſtudents, to open their way into the ſciences, and for the more extenſive and general ſervice of mankind, that the Gentleman and the Chriſtian might find their account in the peruſal as well as the Scholar. I have therefore collected and propoſed the chief principles and rules of right judgment in matters of common and ſacred importance, and pointed out our moſt frequent miſtakes and prejudices in the concerns of life and religion, that we might better guard againſt the ſprings of error, guilt and ſorrow, which ſurround us in every ſtate of mortality.

You know, SIR, the great deſign of this noble ſcience is to reſcue our reaſoning powers from their unhappy ſlavery and darkneſs; and thus with all due ſubmiſſion and deference it offers a humble aſſiſtance to divine revelation. Its chief buſineſs is to relieve the natural weakneſſes of the mind by ſome better efforts of na-

ture; it is to diffuſe a light over the underſtanding in our inquiries after truth, and not to furniſh the tongue with debate and controverſy. True Logic is not that noiſy thing that deals all in diſpute and wrangling, to which former ages had debaſed and confined it; yet its diſciples muſt acknowledge alſo, that they are taught to vindicate and defend the truth, as well as to ſearch it out. True Logic doth not require a long detail of hard words to amuſe mankind, and to puff up the mind with empty ſounds, and a pride of falſe learning; yet ſome diſtinctions and terms of art are neceſſary to range every idea in its proper claſs, and to keep our thoughts from confuſion. The world is now grown ſo wiſe as not to ſuffer this valuable art to be engroſſed by the Schools. In ſo polite and knowng an age, every Man of Reaſon will covet ſome acquaintance with Logic, ſince it renders its daily ſervice to wiſdom and virtue, and to the affairs of common life as well as to the ſciences.

I will not preſume, SIR, that this little book is improved ſince its firſt compoſure, in proportion to the improvements of your manly age. But when you ſhall pleaſe to review it in your retired hours, perhaps you may refreſh your own memory in ſome of the early parts of Learning: and if you find all the additional remarks and rules made ſo familiar to you already by your own obſervation, that there is nothing new among them, it will be no unpleaſing reflection that you have ſo far anticipated the preſent zeal and labour of,

SIR,

Your moſt Faithful and

Obedient Servant,

I. WATTS.

LONDON, Aug. 24th 1724.

THE

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INTRODUCTION

AND

GENERAL SCHEME.

LOGIC is the art of uſing REASON * well in our inquiries after truth, and the communication of it to others.

REASON * is the glory of human nature, and one of the chief eminencies whereby we are raiſed above our fellow-creatures, the brutes, in this lower world.

Reaſon, as to the power and principle of it, is the common gift of God to all men, though all are not favoured with it by nature in an equal degree; but the acquired improvements of it in different men, make a much greater diſtinction between them than nature had made. I could even venture to ſay, that the improvement of reaſon hath raiſed the learned and the prudent in the European world, almoſt as much above the Hottentots, and other ſavages of Africa, as thoſe ſavages are by nature ſuperior to the birds, the beaſts, and the fiſhes.

Now the deſign of *Logic* is to teach us the right uſe of our reaſon, or intellectual powers, and the improvement of them in ourſelves and others? This is not only neceſſary in order to attain any competent knowledge in the ſciences, or the affairs of learning but to govern both the greater and the meaner actions of life. It is the cultivation of our reaſon by which we are better enabled to diſtinguiſh good from evil, as well

* The word Reaſon in this place is not confined to the mere faculty of reaſoning, or inferring one thing from another, but includes all the intellectual powers of man.

as truth from falſehood; and both theſe are matters of the higheſt importance, whether we regard this life, or the life to come.

The purſuit and acquiſition of truth is of infinite concernment to mankind. Hereby we become acquainted with the name of things both in heaven and earth, and their various relations to each other. It is by this means we diſcover our duty to God and our fellow-creatures; by this we arrive at the knowledge of natural religion, and learn to confirm our faith in divine revelation, as well as to underſtand what is revealed. Our wiſdom, prudence, and piety, our preſent conduct and our future hope, are all influenced by the uſe of our rational powers in the ſearch after truth.

There are ſeveral things that make it very neceſſary that our reaſon ſhould have ſome aſſiſtance in the exerciſe or uſe of it.

The firſt is, the depth and difficulty of many truths and the weakneſs of our reaſon to ſee far into things at once, and penetrate to the bottom of them. It was a ſaying among the ancients, *Veritas in puteo*, truth lies in a well; and, to carry on this metaphor, we may very juſtly ſay, that logic does, as it were, ſupply us with ſteps whereby we may go down to reach the water: or it frames the links of a chain, whereby we may draw the water up from the bottom. Thus, by the means of many reaſonings well connected together, philoſophers in our age have drawn a thouſand truths out of the depths of darkneſs, which our fathers were utterly unacquainted with.

Another thing that makes it neceſſary for our reaſon to have ſome aſſiſtance given it, is the diſguiſe and falſe colours in which many things appear to us in this preſent imperfect ſtate. There are a thouſand things which are not in reality what they appear to be, and that both in the natural and moral world; ſo that the ſun appears to be flat as a plate of ſilver, and to be leſs than twelve inches in diameter; the moon appears to be as big as the ſun; and the rainbow appears to be a large ſubſtantial arch in the ſky; all which are in reality groſs falſehoods. So knavery puts on the face of juſtice; hypocriſy and ſuperſtition wear the vizard of piety,

deceit and evil are often cloathed in the ſhapes and appearances of truth and goodneſs. Now logic helps us to ſtrip off the outward diſguiſe of things, and to behold them and judge of them in their own nature.

There is yet a farther proof of our intellectual or rational powers needing ſome aſſiſtance, and that is, becauſe they are ſo frail and fallible in the preſent ſtate: We are impoſed upon at home as well as abroad; we are deceived by our ſenſes, by our imaginations, by our paſſions and appetites; by the authority of men, by education and cuſtom, *&c.*; and we are led into frequent errors, by judging according to theſe falſe and flattering principles, rather than according to the nature of things. Something of this frailty is owing to our very conſtitution, man being compounded of fleſh and ſpirit; ſomething of it ariſes from our infant ſtate, and our growing up by ſmall degrees to manhood; ſo that we form a thouſand judgments before our reaſon is mature. But there is ſtill more of it owing to our original defection from God, and the fooliſh and evil diſpoſitions that are found in fallen man; ſo that one great part of the deſign of logic is to guard us againſt the deluſive influences of our meaner powers, to cure the miſtakes of immature judgment, and to raiſe us in ſome meaſure from the ruins of our fall.

It is evident enough from all theſe things, that our reaſon needs the aſſiſtance of art in our inquiries after truth or duty: and without ſome ſkill and diligence in forming our judgment aright, we ſhall be led into frequent miſtakes, both in matters of ſcience, and in matters of practice; and ſome of theſe miſtakes may prove fatal too.

The art of logic, even as it aſſiſts us to gain the knowledge of the ſciences, leads us on towards virtue and happineſs; for all our ſpeculative acquaintance with things ſhould be made ſubſervient to our better conduct in the civil and the religious life. This is infinitely more valuable than all ſpeculations, and a wiſe man will uſe them chiefly for this better purpoſe.

All the good judgment and prudence that any man exerts in his common concerns of life, without the advantage of learning, is called natural logic; and it is

but a higher advancement, and a farther aſſiſtance of our rational powers, that is deſigned by and expected from this artificial logic.

In order to attain this, we muſt inquire what are the principal operations of the mind which are put forth in the exerciſe of our reaſon; and we ſhall find them to be theſe four, viz. Perception, judgment, argumentation, and diſpoſition.

Now the art of logic is compoſed of thoſe obſervations and rules, which men have made about theſe four operations of the mind, perception, judgment, reaſoning, and diſpoſition, in order to aſſiſt and improve them.

I. PERCEPTION, conception, or apprehenſion, is the mere ſimple contemplation of things offered to our mind, without affirming or denying any thing concerning them. So we conceive or think of a horſe, a tree, high, ſwift, ſlow, animal, time, motion, matter, mind, life, death, *&c.* The form under which theſe things appear to the mind, or the reſult of our conception or apprehenſion, is called an idea.

II. JUDGMENT is that operation of the mind, whereby we join two or more ideas together by one affirmation or negation; that is, we either affirm or deny this to be that. So this tree is high; that horſe is not ſwift; the mind of man is a thinking being; mere matter has no thought belonging to it; God is juſt; good men are often miſerable in this world; a righteous governor will make a difference betwixt the evil and the good; which ſentences are the effect of judgment and are called Propoſitions.

III. ARGUMENTATION or reaſoning is that operation the mind, whereby we infer one thing, that is, one propoſition from two or more propoſitions premiſed: or it is the drawing a concluſion, which before was either unknown, or dark or doubtful, from ſome propoſitions which are more known and evident. So when we have judged that matter cannot think, a

that the mind of man doth think, we then infer and conclude that therefore the mind of man is not matter.

So we judge that a juſt governor will make a difference between the evil and the good; we judge alſo that God is a juſt governor; and from thence we conclude, that God will make a difference betwixt the evil and the good.

This argumentation may be carried on farther; thus, God will one time or another make a difference between the good and the evil; but there is little or no difference made in this world: Therefore there muſt be another world wherein this difference ſhall be made.

Theſe inferences or concluſions are the effects of reaſoning; and the three propoſitions taken all together are called a ſyllogiſm or argument.

IV. DISPOSITION is that operation of the mind, whereby we put the ideas, propoſitions, and arguments, which we have formed concerning one ſubject, into ſuch an order as is fitteſt to gain the cleareſt knowledge of it, to retain it longeſt, and to explain it to others in the beſt manner; or, in ſhort, it is the ranging of our thoughts in ſuch order as is beſt for our own and others conception and memory. The effect of this operation is called method. This very deſcription of the four operations of the mind, and their effects in this order is an inſtance or example of method.

Now, as the art of logic aſſiſts our conception, ſo it gives us a large and comprehenſive view of the ſubjects we inquire into, as well as a clear and diſtinct knowledge of them. As it regulates our judgment and our reaſoning, ſo it ſecures us from miſtakes, and gives us a true and certain knowledge of things; and as it furniſhes us with method, ſo it makes our knowledge of things both eaſy and regular, and guards our thoughts from confuſion.

Logic is divided into four parts, according to theſe four operations of the mind, which it directs, and therefore we ſhall treat of it in this order.

THE

FIRST PART

OF

L O G I C.

Of PERCEPTION and IDEAS.

THE firſt part of logic contains obſervations and precepts about the firſt operation of the mind, perception, or conception; and ſince all our knowledge, how wide and large ſoever it grow, is founded upon our conceptions and ideas, here we ſhall conſider,

1. The general nature of them.
2. The objects of our conception, or the archetypes or patterns of theſe ideas.
3. The ſeveral diviſions of them.
4. The words and terms whereby our ideas are expreſſed.
5. General directions about our ideas.
6. Special rules to direct our conceptions.

CHAP. I.

OF THE NATURE OF IDEAS.

FIRST, the nature of conception or perception* ſhall juſt be mentioned, though this may ſeem to belong to another ſcience rather than logic.

Perception is that act of the mind (or, as ſome philoſophers call it, rather a paſſion or impreſſion), whereby the mind becomes conſcious of any thing, as when I feel hunger, thirſt, or cold, or heat; when I ſee a horſe, a tree, or a man; when I hear a human voice, or thunder, I am conſcious of theſe things, and this is called perception. If I ſtudy, meditate, wiſh, or fear, I am conſcious of theſe inward acts alſo, and my mind perceives its own thoughts, wiſhes, fears, &c.

An idea is generally defined a repreſentation of a thing in the mind; it is a repreſentation of ſomething that we have ſeen, felt, heard, &c. or been conſcious of. That notion or form of a horſe, a tree, or a man, which is in the mind, is called the idea of a horſe, a tree, or a man.

That notion of hunger, cold, ſound, colour, thought, or wiſh, or fear, which is in the mind, is called the idea of hunger, cold, ſound, wiſh, &c.

It is not the outward object or thing which is perceived, viz. the horſe, the man, &c. nor is it the very perception or ſenſe and feeling, viz. of hunger or cold, &c. which is called the idea; but it is the thing as it exiſts in the mind by way of conception or repreſentation that is properly called the idea, whether the object be preſent or abſent.

As a horſe, a man, and a tree, are the outward objects of our perception, and the outward archetypes or

* The words Conception and Perception are often uſed promiſcuouſly, as I have done here, becauſe I would not embarraſs a learner with too many diſtinctions; but if I were to diſtinguiſh them, I would ſay perception is the conſciouſneſs of an object when preſent; conception is the forming an idea of the object whether preſent or abſent.

patterns of our ideas, ſo our own ſenſations of hunger, cold, *&c.* are alſo inward archetypes or patterns of our ideas; but the notions or pictures of theſe things, as they are conſidered or conceived in the mind, are preciſely the ideas that we have to do with in logic. To ſee a horſe, or to feel cold, is one thing: to think of and converſe about a man, a horſe, hunger, or cold, is another.

Among all theſe ideas, ſuch as repreſent bodies are generally called images, eſpecially if the idea of the the ſhape be included. Thoſe inward repreſentations which we have of ſpirit, thought, love, hatred, cauſe, effect, *&c.* are more pure and mental ideas, belonging more eſpecially to the mind, and carry nothing of ſhape or ſenſe in them. But I ſhall have occaſion to ſpeak more particularly of the original, and the diſtinction of ideas, in the third chapter. I proceed therefore now to conſider the objects of our ideas.

CHAP. II.

OF THE OBJECTS OF PERCEPTION.

SECT. I.

Of Being in General.

THE object of perception is that which is repreſented in the idea, that which is the archetype or pattern, according to which the idea is formed; and thus *judgment*, *propoſitions*, *reaſons*, and long diſcourſes, may all become the objects of perception; but in this place we ſpeak chiefly of the firſt and more ſimple objects of it, before they are joined and formed into propoſitions or diſcourſes.

Every object of our idea is called a theme, whether it be a being or not-being; for not-being may be propoſed to our thoughts, as well as that which has a

real being. But let us firſt treat of beings, and that in the largeſt extent of the word.

A being is conſidered as poſſible, or as actual.

When it is conſidered as poſſible, it is ſaid to have an eſſence or nature. Such were all things before their creation. When it is conſidered as actual, then it is ſaid to have exiſtence alſo. Such are all things which are created, and God himſelf the creator.

Eſſence, therefore, is but the very nature of any being, whether it be actually exiſting or no. A roſe in winter has an eſſence, in ſummer it has exiſtence alſo.

Note, There is but one being which includes exiſtence in the very eſſence of it, and that is God, who therefore actually exiſts by natural and eternal neceſſity; but the actual exiſtence of every creature is very diſtinct from its eſſence, for it may be or may not be, as God pleaſes.

Again, every being is conſidered either as ſubſiſting in and by itſelf, and then it is called a ſubſtance; or it ſubſiſts in and by another, and then it is called a mode or manner of being. Though few writers allow mode to be called a being in the ſame perfect ſenſe as a ſubſtance is: and ſome modes have evidently more of real entity or being than others, as will appear when we come to treat of them. Theſe things will furniſh us matter for larger diſcourſe in the following ſections.

SECT. II.

Of Subſtances, and their various Kinds.

A SUBSTANCE is a being which can ſubſiſt by itſelf, without dependence upon any other created being. The notion of ſubſiſting by itſelf gives occaſion to logicians to call it a ſubſtance. So a horſe, a houſe, wood, ſtone, water, fire, a ſpirit, a

body, an angel, are called ſubſtances, becauſe they depend on nothing but God for their exiſtence.

It has been uſual alſo in the deſcription of ſubſtance to add, it is that which is the ſubject of modes or accidents; a body is the ſubſtance or ſubject, its ſhape is the mode.

But leſt we be led into miſtakes, let us here take notice, that when a ſubſtance is ſaid to ſubſiſt without dependence upon another created being, all that we mean is, that it cannot be annihilated, or utterly deſtroyed and reduced to nothing, by any power inferior to that of our creator, though its preſent particular form, nature, and properties may be altered and deſtroyed by many inferior cauſes; a horſe may die and turn to duſt; wood may be turned into fire, ſmoke, and aſhes; a houſe into rubbiſh, and water into ice or vapour; but the ſubſtance or matter of which they are made ſtill remains, though the forms and ſhapes of it are altered. A body may ceaſe to be a horſe or a houſe, but it is a body ſtill; and in this ſenſe it dedepends only upon God for its exiſtence.

Among ſubſtances, ſome are thinking or conſcious beings, or having a power of thought, ſuch as the mind of man, God, angels. Some are extended, and ſolid or impenetrable; that is, they have dimenſions of length, breadth, and depth, and have alſo a power of reſiſtance, or exclude every thing of the ſame kind from being in the ſame place. This is the proper character of matter or body.

As for the idea of ſpace, whether it be void or full, that is, a *vacuum* or a *plenum*, whether it be interſperſed among all bodies, or may be ſuppoſed to reach beyond the bounds of the creation, it is an argument too long and too hard to be diſputed in this place what the nature of it is. It has been much debated whether it be a real ſubſtance, or a mere conception of the mind; whether it be the immenſity of the divine nature, or the mere order of co-exiſtent beings; whether it be the manner of our conception of the diſtances of bodies, or a mere nothing. Therefore I drop the mention of it here, and refer the reader to the firſt

eſſay among the *Philoſophical Eſſays* by *I. W.* publiſhed 1733.

Now, if we ſeclude ſpace out of our conſideration, there will remain but two ſorts of ſubſtances in the world, that is, matter and mind; or, as we otherwiſe call them, body and ſpirit; at leaſt we have no ideas of any other ſubſtance but theſe*.

* Becauſe men have different ideas and notions of ſubſtance, I thought it not proper entirely to omit all accounts of them, and therefore have thrown them into the margin.

Some philoſophers ſuppoſe that our acquaintance with matter or mind reaches no farther than the mere properties of them, and that there is a ſort of unknown being, which is the ſubſtance or the ſubject by which theſe properties of ſolid extenſion and of cogitation are ſupported, and in which theſe properties inhere or exiſt. But perhaps this notion ariſes only from our turning the mere abſtracted or logical notion of ſubſtance or ſelf-ſubſiſting into the notion of a diſtinct, phyſical, or natural being, without any neceſſity. Solid extenſion ſeems to me be the very ſubſtance of matter, or of all bodies; and a power of thinking, which is always in act, ſeems to be the very ſubſtance of all ſpirits; for God himſelf is an intelligent, almighty power; nor is there any need to ſeek for any other ſecret and unknown being or abſtracted ſubſtance entirely diſtinct from theſe, in order to ſupport the ſeveral modes or properties of matter or mind; for theſe two ideas are ſufficient for that purpoſe; therefore I rather think theſe are ſubſtances.

It muſt be confeſſed, when we ſay, ſpirit is a thinking ſubstance, and matter is an extended ſolid ſubſtance, we are ſometimes ready to imagine, that extenſion and ſolidity are but mere modes and properties of a certain unknown ſubſtance or ſubject which ſupports them, and which we call body; and that a power of thinking is but a mere mode and property of ſome unknown ſubstance or ſubject which ſupports it, and which we call ſpirit; but I rather take this to be a mere miſtake which we are led into by the grammatical form and uſe of words; and perhaps our logical way of thinking by ſubſtances and modes, as well as our grammatical way of talking by ſubſtantives and adjectives, help to delude us into the ſuppoſition.

However, that I may not be wanting to any of my readers, I would let them know Mr Locke's opinion, which has obtained much in the preſent age, and it is this: "That our idea of any particular ſubstance is only ſuch a combination of ſimple ideas as repreſents that thing as ſubſiſting by itſelf, in which the ſuppoſed or confuſed idea of ſubſtance (ſuch as it is) is always ready to offer itſelf. It is a conjunction of ideas co-exiſting in ſuch a cauſe of their union, and makes the whole ſubject ſubſiſt by itſelf, though the cauſe of their union be unknown; and our general idea of ſubſtance ariſes from the ſelf-ſubſiſtence of this collection of ideas."

Now if this notion or ſubſtance reſt here, and be conſidered merely as an unknown cauſe of the union of properties, it is much more

Among ſubſtances, ſome are called ſimple, ſome are compound, whether the words be taken in a philoſophical or a vulgar ſenſe.

Simple ſubſtances, in a philoſophical ſenſe, are either ſpirits which have no manner of compoſition in them, and in this ſenſe God is called a ſimple being; or they are the firſt principles of bodies, which are uſually called elements, of which all other bodies are compounded: elements are ſuch ſubſtances as cannot be reſolved or reduced into two or more ſubſtances of different kinds.

The various ſects of philoſophers have attributed the honour of this name to various things. The Peripateticks, or followers of Ariſtotle, made fire, air, earth, and water, to be the four elements of which all earthly things were compounded; and they ſuppoſed the heavens to be a quinteſſence, or a fifth ſort of body, diſtinct from all theſe; but ſince experimental philoſophy and mathematics have been better underſtood, this doctrine has been abundantly refuted. The chemiſts make ſpirit, ſalt, ſulphur, water, and earth, to be their five elements, becauſe they can reduce all terreſtrial things to theſe five. This ſeems to come nearer the truth, though they are not all agreed in this enumeration of elements. In ſhort, our modern philoſophers gener-

eaſy to be admitted; but if we proceed to ſupport a ſort of real, ſubſtantial, diſtinct being, different from ſolid quantity or extenſion in bodies, and different from a power of thinking in ſpirits, in my opinion it is the introduction of a needleſs, ſcholaſtical notion into the real nature of things, and then fancying it to have a real exiſtence.

Mr Locke, in his Eſſay of Human Underſtanding, Book II. chap. 22. § 2. Seems to ridicule this common idea of ſubſtance, which men have generally ſuppoſed to be a ſort of ſubſtratum, diſtinct from all properties whatſoever, and to be the ſupport of all properties. Yet, in Book IV. chap. 3. § 6. He ſeems to ſuppoſe there may be ſome ſuch unknown ſubſtratum, which may be capable of receiving the properties both of matter and of mind, viz. extenſion, ſolidity, and cogitation; for he ſuppoſes it poſſible for God to add cogitation to that ſubſtance which is corporeal, and thus to cauſe matter to think. If this be true, then ſpirits (for ought we know) may be corporeal beings or thinking bodies, which is a doctrine too favourable to the mortality of the ſoul. But I leave theſe debates to the philoſophers of the age, and will not be too poſitive in my opinion of this abſtruſe ſubject.

See more of this argument in Philoſophical Eſſays, before cited, Eſſay 2d.

ally ſuppoſe matter or body to be one ſimple principle or ſolid extenſion, which being diverſified by its various ſhapes, quantities, motions, and ſituations, makes all the varieties that are found in the univerſe, and therefore they make little uſe of the word element.

Compound ſubſtances are made up of two or more ſimple ſubſtances; ſo every thing in this whole material creation that can be reduced by the art of man into two or more different principles or ſubſtances, is a compound body in the philoſophical ſenſe.

But if we take the words ſimple and compound in a vulgar ſenſe, then all thoſe are ſimple ſubſtances which are generally eſteemed uniform in their natures. So every herb is called a ſimple; and every metal and mineral, though the chemiſt perhaps may find all his ſeveral elements in each of them. So a needle is a ſimple body, being only made of ſteel; but a ſword or a knife is a compound, becauſe its haft or handle is made of materials different from the blade. So the bark of Peru, or the juice of ſorrel, is a ſimple medicine; but when the apothecary's art has mingled ſeveral ſimples together, it becomes a compound, as *diaſcordium* or *mithradite*.

The terms of pure and mixt, when applied to bodies, are much akin to ſimple and compound. So a guinea is pure gold, if it has nothing but gold in it, without any alloy or baſer metal; but if any other mineral or metal be mingled with it, it is called a mixed ſubſtance or body.

Subſtances are alſo divided into animate and inanimate. Animate ſubſtances are either animal or vegetable*.

Some of the animated ſubſtances have various organical or inſtrumental parts, fitted for a variety of motions from place to place, and a ſpring of life within themſelves, as beaſts, birds, fiſhes, and inſects; theſe are called animals. Other animated ſubſtances are called vegetables, which have within themſelves the

* Vegetables as well as animals have gotten the name of animated ſubſtances, becauſe ſome of the ancients ſuppoſed herbs and plants, beaſts and birds, &c. to have a ſort of ſouls diſtinct from matter or body.

principles of another ſort of life and growth, and of various productions of leaves, flowers, and fruit, ſuch as we ſee in plants, herbs, and trees.

And there are other ſubſtances, which are called inanimate, becauſe they have no ſort of life in them, as earth, ſtone, air, water, *&c.*

There is alſo one ſort of ſubſtance or being, which is compounded of body and mind, or a rational ſpirit united to an animal; ſuch is mankind. Angels, or any other beings of the ſpiritual and inviſible world, who have aſſumed viſible ſhapes for a ſeaſon, can hardly be reckoned among this order of compounded beings; becauſe they drop their bodies, and diveſt themſelves of thoſe viſible ſhapes, when their particular meſſage is performed, and thereby ſhew that theſe bodies do not belong to their natures.

SECT. III.

Of Modes, and their various Kinds, and firſt of eſſential and accidental Modes.

THE next ſort of objects which are repreſented in our ideas, are called modes, or manners of being*.

A mode is that which cannot ſubſiſt in and of itſelf, but is always eſteemed as belonging to, and ſubſiſting by, the help of ſome ſubſtance, which, for that reaſon, is called its ſubject. A mode muſt depend on that ſubſtance for its very exiſtence and being; and that not as a being depends on its cauſe, (for ſo ſubſtances themſelves depend on God their creator), but the very being

* The term Mode is by ſome authors applied chiefly to the relations or relative manners of being; but, in logical treatiſes, it is often uſed in a larger ſenſe, and extends to all attributes whatſoever, and includes the moſt eſſential and inward properties, as well as outward reſpects and relations, and reaches to actions themſelves, as well as manners of action.

of a mode depends on ſome ſubſtance for its ſubject, in which it is, or to which it belongs; ſo motion, ſhape, quantity, weight, are modes of the body; knowledge, wit, folly, love, doubting, judging, are modes of the mind; for the one cannot ſubſiſt without body, and the other cannot ſubſiſt without mind.

Modes have their ſeveral diviſions, as well as ſubſtances.

I. MODES are either eſſential or accidental.

An eſſential mode or attribute is that which belongs to the very nature or eſſence of the ſubject wherein it is; and the ſubject can never have the ſame nature without it. Such is roundneſs in a bowl, hardneſs in a ſtone, ſoftneſs in water, vital motion in an animal, ſolidity in matter, thinking in a ſpirit; for though that piece of wood which is now a bowl may be made ſquare, yet if roundneſs be taken away it is no longer a bowl; ſo that very fleſh and bones, which is now an animal, may be without life or inward motion; but if all motion be entirely gone, it is no longer an animal but a carcaſe; ſo if a body or matter be diveſted of ſolidity, it is a mere void ſpace or nothing; and if ſpirit be entirely without thinking, I have no idea of any thing that is left in it; therefore ſo far as I am able to judge, conſciouſneſs muſt be its eſſential attribute*; thus all the perfections of God are called his attributes, for he cannot be without them.

An eſſential mode is either primary or ſecondary.

A primary eſſential mode is the firſt or chief thing that conſtitutes any being in its particular eſſence or nature, and makes it to be that which it is, and diſtinguiſhes it from all other beings; that is called the difference in the definition of things, of which he ſatter; ſo roundneſs is the primary eſſential mode

* When I call ſolid extenſion an eſſential mode or attribute of matter, and a power of thinking an eſſential mode or attribute of ſpirit, I do it in compliance with common forms of ſpeech, but perhaps in reality theſe are the very eſſences or ſubſtances themſelves, the moſt ſubſtantial ideas that we can frame of body and ſpirit, have no need of any (we know not what) ſubſtratum or unintelligible ſubſtance to ſupport them in their exiſtence or being.

difference of a bowl: the meeting of two lines is the primary eſſential mode, or the difference of an angle: the perpendicularity of theſe lines to each other is the difference of a right angle: ſolid extenſion is the primary attribute or difference of matter; conſciouſneſs, or at leaſt a power of thinking, is the difference or primary attribute of a ſpirit*: and to fear and love God is the primary attribute of a pious man.

A ſecondary eſſential mode is any other attribute of a thing, which is not of primary conſideration; this is called a property. Sometimes indeed it goes towards making up the eſſence, eſpecially of a complex being, ſo far as we are acquainted with it: ſometimes it depends upon, and follows from, the eſſence of it; ſo volubility, or aptneſs to roll, is the property of a bowl, and is derived from its roundneſs. Mobility and figure or ſhape are properties of matter; and it is the property of a pious man to love his neighbour.

An accidental mode, or an accident, is ſuch a mode as is not neceſſary to the being of a thing, for the ſubject may be without it, and yet remain of the ſame nature that it was before; or it is that mode which may be ſeparated or aboliſhed from its ſubject; ſo ſmoothneſs or roughneſs, blackneſs or whiteneſs, motion or reſt, are the accidents of a bowl; for theſe may be all changed, and yet the body remain a bowl ſtill. Learning, juſtice, folly, ſickneſs, health, are the accidents of a man; motion, ſquareneſs, or any particular ſhape or ſize, are the accidents of a body; yet ſhape and ſize in general are eſſential modes of it; for a body muſt have ſome ſize and ſhape, nor can it be without them; ſo hope, fear, wiſhing, aſſenting, and doubting, are accidents of the mind, though thinking in general ſeems to be eſſential to it.

Here obſerve, that the name of accident has been oftentimes given by the old Peripatetick philoſophers to all modes, whether eſſential or accidental; but the moderns confine this word accident to the ſenſe in which I have deſcribed it.

Here it ſhould be noted alſo, that though the word

* See the preceding note.

property be limited ſometimes in logical treatiſes to the ſecondary eſſential mode, yet it is uſed in common language to ſignify theſe four ſorts of modes, of which ſome are eſſential, and ſome accidental.

(1). Such as belong to every ſubject of that kind, but not only to thoſe ſubjects. So yellow colour and ductility are properties of gold; they belong to all gold; but not only to gold, for ſaffron is alſo yellow, and lead is ductile.

(2). Such as belong only to one kind of ſubject, but not to every ſubject of that kind. So learning, reading, and writing, are properties of human nature; they belong only to man, but not to all men.

(3). Such as belong to every ſubject of one kind, and only to them, but not always. So ſpeech or language is a property of man, for it belongs to all men, and to men only; but men are not always ſpeaking.

(4). Such as belong to every ſubject of one kind, and to them only and always. So ſhape and diviſibility are properties of body; ſo omniſcience and omnipotence are properties of the divine nature; for in this ſenſe properties and attributes are the ſame; and, except in logical treatiſes, there is ſcarce any diſtinction made between them. Theſe are called *propria quarto modo* in the ſchools, or properties of the fourth ſort.

Note. WHERE there is any one property or eſſential attribute ſo ſuperior to the reſt, that it appears plainly that all the reſt are derived from it, and ſuch as is ſufficient to give a full diſtinction of that ſubject from all other ſubjects, this attribute or property is called the eſſential difference, as is before declared; and we commonly ſay the eſſence of the thing conſiſts in it; ſo the eſſence of matter in general ſeems to conſiſt in ſolidity, or ſolid extenſion. But, for the moſt part, we are ſo much at a loſs in finding out the intimate eſſence of particular natural bodies, that we are forced to diſtinguiſh the eſſential difference of moſt things by a combination of properties. So a ſparrow is a bird which has ſuch coloured feathers, and ſuch a particular ſize, ſhape, and motion. So wormwood is an herb which has ſuch a leaf of ſuch a colour and ſhape, and taſte, and ſuch a

root and ſtalk. So beaſts and fiſhes, minerals, metals, and works of art, ſometimes as well as of nature, are diſtinguiſhed by ſuch a collection of properties.

SECT. IV.

The farther Diviſions of Mode.

II. THE ſecond diviſion of modes is into abſolute and relative. An abſolute mode is that which belongs to its ſubject, without reſpect to any other beings whatſoever; but a relative mode is derived from the regard that one being has to others. So roundneſs and ſmoothneſs are the abſolute modes of a bowl; for if there were nothing elſe exiſting in the whole creation, a bowl might be round and ſmooth; but greatneſs and ſmallneſs are relative modes: for the very ideas of them are derived merely from the compariſon of one being with others. A bowl of four inches diameter is very great compared with one of an inch and a half; but it is very ſmall in compariſon of another bowl, whoſe diameter is eighteen or twenty inches. Motion is the abſolute mode of a body, but ſwiftneſs or ſlowneſs are relative ideas; for the motion of a bowl on a bowling-green is ſwift, when compared with a ſnail; and it is ſlow when compared with a cannon-bullet.

Theſe relative modes are largely treated of by ſome logical and metaphyſical writers, under the name of relation; and theſe relations themſelves are farther ſubdivided into ſuch as ariſe from the nature of things, and ſuch as ariſe merely from the operation of our mind. One ſort are called real relations, the other mental; ſo the likeneſs of one egg to another is a real relation, becauſe it ariſes from the real nature of things; for whether there was any man or mind to conceive it or no, one egg would be like another; but when we conſider an egg as a noun ſubſtantive in grammar, or as ſigni-

fied by the letters *e*, *g*, *g*, theſe are mental relations, and derive their very nature from the mind of man. Theſe ſort of relations are called by the ſchools *entia rationis*, or ſecond notions, which have no real being but by the operations of the mind.

III. The third diviſion of mode ſhews us they are either intrinſical or extrinſical. Intrinſical modes are conceived to be in the ſubject or ſubſtance, as when we ſay a globe is round, or ſwift, rolling, or at reſt; or when we ſay a man is tall or learned, theſe are intrinſic modes; but extrinſic modes are ſuch as ariſe from ſomething that is not in the ſubſtance or ſubject itſelf; but it is a manner of being which ſome ſubſtances attain, by reaſon of ſomething that is external or foreign to the ſubject; as, this globe lies within two yards of the wall; or, this man is beloved or hated. *Note.* Such ſort of modes as this laſt example are called external denominations.

IV. There is a fourth diviſion much akin to this, whereby modes are ſaid to be inherent or adherent; that is, proper or improper. Adherent or improper modes ariſing from the joining of ſome accidental ſubſtance to the chief ſubject, which yet may be ſeparated from it; ſo when a bowl is wet, or a boy is cloathed, theſe are adherent modes; for the water and the cloaths are diſtinct ſubſtances, which adhere to the bowl or to the boy; but when we ſay the bowl is ſwift or round; when we ſay the boy is ſtrong or witty, theſe are proper or inherent modes, for they have a ſort of inbeing in the ſubſtance itſelf, and do not ariſe from the addition of any other ſubſtance to it.

V. Action and paſſion are modes or manners which belong to ſubſtances, and ſhould not entirely be omitted here. When a ſmith with a hammer ſtrikes a piece of iron, the hammer and the ſmith are both agents or ſubjects of action; the one is the prime or ſupreme, the other the ſubordinate; the iron is the patient, or the ſubject of paſſion, in a philoſophical ſenſe, becauſe it receives the operation of the agent; though this ſenſe

of the words paſſion and patient differs much from the vulgar meaning of them*.

VI. THE ſixth diviſion of modes may be into phyſical, that is, natural, civil, moral, and ſupernatural. So when we conſider the apoſtle Paul, who was a little man, a Roman by the privilege of his birth, a man of virtue or honeſty, and an inſpired apoſtle; his low ſtature is a phyſical mode, his being a Roman is a civil privilege, his honeſty is a moral conſideration, and his being inſpired is ſupernatural.

VII. MODES belong either to body or to ſpirit, or to both. Modes of body belong only to matter or to corporeal beings; and theſe are ſhape, ſize, ſituation, or place, *&c.* Modes of ſpirit belong to mind; ſuch are knowledge, aſſent, diſſent, doubting, reaſoning, *&c.* Modes which belong to both have been ſometimes called mixed modes, or human modes; for theſe are only found in human nature, which is compounded both of body and ſpirit: ſuch are ſenſation, imagination, paſſion, *&c.* in all which there is a concurrence of the operations both of mind and body, that is, of animal and intellectual nature.

But the modes of body may be yet farther diſtinguiſhed. Some of them are primary modes or qualities, for they belong to bodies conſidered in themſelves, whether there were any man to take notice of them or no; ſuch are theſe before mentioned, *viz.* ſhape, ſize, ſituation, *&c.* Secondary qualities or modes are ſuch ideas as we aſcribe to bodies on account of the various impreſſions which are made on the ſenſes of men by them, and theſe are called ſenſible qualities, which are very numerous; ſuch are all colours, as red, green, blue, *&c.*; ſuch are all ſounds, as ſharp, ſhrill, loud, hoarſe; all taſtes, as ſweet, bitter, ſour; all ſmells, whether pleaſant, offenſive, or indifferent; and all tactile qualities, or ſuch as affect the touch or

* Agent ſignifies the doer, patient the ſufferer, action is doing, paſſion is ſuffering: agent and action have retained their original and philoſophical ſenſe, though patient and paſſion have acquired a very different meaning in common language.

feeling, *viz.* Heat, cold, *&c.* Theſe are properly called ſecondary qualities; for though we are ready to conceive them as exiſting in the very bodies themſelves which affect our ſenſes, yet true philoſophy has moſt undeniably proved, that all theſe are really various ideas or perceptions excited in human nature by the different impreſſions that bodies make upon our ſenſes by their primary modes, that is, by means of their different ſhape, ſize, motion, and poſition of thoſe little inviſible parts that compoſe them. Thence it follows, that a ſecondary quality, conſidered as in the bodies themſelves, is nothing elſe but a power and aptitude to produce ſuch ſenſations in us. See *Locke's* Eſſay on the Underſtanding, Book II. Chap. 8.

VIII. I MIGHT add, in the laſt place, that as modes belong to ſubſtances, ſo there are ſome alſo that are but modes of other modes: for though they ſubſiſt in and by the ſubſtance, as the original ſubject of them, yet they are properly and directly attributed to ſome mode of that ſubſtance. Motion is the mode of a body; but the ſwiftneſs or ſlowneſs of it, or its direction to the north or ſouth, are but modes of motion. Walking is the mode or manner of man or of a beaſt; but walking gracefully implies a manner or mode ſuperadded to that action. All comparative and ſuperlative degrees of any quality, are the modes of a mode, as ſwifter implies a greater meaſure of ſwiftneſs.

It would be too tedious here to run through all the modes, accidents, and relations at large that belong to various beings, and are copiouſly treated of in general in the ſcience called metaphyſics, or more properly ontology; they are alſo treated of in particular in thoſe ſciences which have aſſumed them ſeverally as their proper ſubjects.

SECT. V.

Of the ten Categories. Of Subſtances modified.

WE have thus given an account of the two chief objects of our ideas, *viz.* Subſtances and modes, and their various kinds; and in theſe laſt ſections, we have briefly comprized the greateſt part of what is neceſſary in the famous ten ranks of being, called the ten-predicaments or categories of Ariſtotle, on which there are endleſs volumes of diſcourſes formed by ſeveral of his followers. But that the reader may not utterly be ignorant of them, let him know the names are theſe: *Subſtance, quantity, quality, relation, action, paſſion, where, when, ſituation,* and *cloathing.* It would be mere loſs of time to ſhew how looſe, how injudicious, and even ridiculous is this ten-fold diviſion of things; and whatſoever farther relates to them, and which may tend to improve uſeful knowledge, ſhould be ſought in ontology, and in other ſciences.

Beſides ſubſtance and mode, ſome of the moderns would have us conſider the ſubſtance modified, as a diſtinct object of our ideas; but I think there is nothing more that need be ſaid on this ſubject than this, *viz.* There is ſome difference between a ſubſtance when it is conſidered with all its modes about it, or clothed in all its manners of exiſtence, and when it is diſtinguiſhed from them, and conſidered naked without them.

SECT. VI.

Of Not-Being.

AS being is divided into ſubſtance and mode, ſo we may conſider not-being with regard to both theſe.

I. NOT-BEING is conſidered as excluding all ſubſtance, and then all modes are alſo neceſſarily excluded, and this we call pure nullity, or mere nothing.

This nothing is taken either in a vulgar or a philoſophical ſenſe; ſo we ſay there is nothing in the cup, in a vulgar ſenſe, when we mean there is no liquor in it; but we cannot ſay there is nothing in the cup, in a ſtrict philoſophical ſenſe, while there is air in it, and perhaps a million of rays of light are there.

II. NOT-BEING, as it has relation to modes or manners of being, may be conſidered either as a mere negation, or as a privation.

A negation is the abſence of that which does not naturally belong to the thing we are ſpeaking of, or which has no right, obligation, or neceſſity to be preſent with it; as when we ſay a ſtone is inanimate, or blind, or deaf, that is, it has no life, nor ſight, nor hearing; nor when we ſay a carpenter or a fiſherman is unlearned, theſe are mere negations.

But a privation is the abſence of what does naturally belong to the thing we are ſpeaking of, or which ought to be preſent with it, as when a man or a horſe is deaf, or blind, or dead, or if a phyſician or a divine be unlearned, theſe are called privations; ſo the ſinfulneſs of any human action is ſaid to be a privation; for ſin is that want of conformity to the law of God, which ought to be found in every action of man.

Note. THERE are ſome writers who make all ſort of relative modes or relations, as well as all external denominations, to be mere creatures of the mind, and *entia rationis*, and then they rank them alſo under the general head of not-beings; but it is my opinion, that whatſoever may be determined concerning mere mental relations and external denominations, which ſeem to have ſomething leſs of entity or being in them, yet there are many real relations which ought not to be reduced to ſo low a claſs; ſuch are the ſituation of bodies, their mutual diſtances, their particular proportions and meaſures, the notions of fatherhood, brotherhood, ſonſhip, *&c.* all which are relative ideas. The

very eſſence of virtue or holineſs conſiſts in the conformity of our actions to the rule of right reaſon, or the law of God; the nature and eſſence of ſincerity is the conformity of our words and actions to our thoughts, all which are but mere relations; and I think we muſt not reduce ſuch poſitive beings as piety, virtue, and truth, to the rank of non-entities, which have nothing real in them, though ſin (or rather the ſinfulneſs of an action) may be properly called a not-being, for it is a want of piety and virtue. This is the moſt uſual, and perhaps the juſteſt, way of repreſenting theſe matters.

CHAP. III.

OF THE SEVERAL SORTS OF PERCEPTIONS OR IDEAS.

IDEAS may be divided with regard to their original, their nature, their objects, and their qualities.

SECT. I.

Of ſenſible, ſpiritual, and abſtracted Ideas.

THERE has been a great controverſy about the origin of ideas, *viz.* Whether any of our ideas are innate or no, that is, born with us, and naturally belonging to our minds? Mr Locke utterly denies it; others as poſitively affirm it: Now, though this controverſy may be compromiſed, by allowing that there is a ſenſe, wherein our firſt ideas of ſome things may be ſaid to be innate, (as I have ſhewn in ſome remarks on Mr Locke's eſſay, which have lain long by me), yet it does not belong to this place and buſineſs to have that point debated at large, nor will it hinder our purſuit of the preſent work to paſs it over in ſilence.

There is ſufficient ground to ſay, that all our ideas, with regard to their original, may be divided into three ſorts, viz. Senſible, ſpiritual, and abſtracted ideas.

I. SENSIBLE or corporeal ideas are derived originally from our ſenſes, and from the communication which the ſoul has with the animal body in this preſent ſtate; ſuch are the notions we frame of all colours, ſounds, taſtes, figures, or ſhapes and motions: for our ſenſes being converſant about particular ſenſible objects become the occaſions of ſeveral diſtinct conceptions in the mind; and thus we come by the ideas of yellow, white, heat, cold, ſoft, hard, bitter, ſweet, and all thoſe which we call ſenſible qualities. All the ideas which we have of body, and the ſensible modes and properties that belong to it, ſeem to be derived from ſenſation.

And howſoever theſe may be treaſured up in the memory, and by the work of fancy may be increaſed, diminiſhed, compounded, divided, and diverſified, (which we are ready to call our invention), yet they all derive their firſt nature and being from ſomething that has been let into our minds by one or other of our ſenſes. If I think of a golden mountain, or a ſea of liquid fire, yet the ſingle ideas of ſea, fire, mountain, and gold came into my thoughts at firſt by ſenſation; the mind has only compounded them.

II. *SPIRITUAL or intellectual ideas are thoſe which we gain by reflecting on the nature and actions of our own ſouls, and turning our thoughts within ourſelves, and obſerving what is tranſacted in our own minds. Such are the ideas we have of thought, aſſent, diſſent, judging, reaſon, knowledge, underſtanding, will, love, fear, hope.

By ſenſation the ſoul contemplates things (as it were) out of itſelf, and gains corporeal repreſentations or ſenſible ideas; by reflection the ſoul contemplates itſelf, and things within itſelf, and by this means it gains ſpiritual ideas, or repreſentations of things intellectual.

Here it may be noted, though the firſt original of

* Here the word Spiritual is uſed in a mere natural, and not in a religious ſenſe.

theſe two ſorts of ideas, *viz.* Senſible and ſpiritual, may be entirely owing to theſe two principles, ſenſation and reflection, yet the recollection and freſh excitation of them may be owning to a thouſand other occaſions and occurrences of life. We could never inform a man who was born blind or deaf what we mean by the words yellow, blue, red, or by the words loud or ſhrill, nor convey any juſt ideas of theſe things to his mind, by all the powers of language, unleſs he has experienced thoſe ſenſations of ſound and colour; nor could we ever gain the ideas of thought, judgment, reaſon, doubting, hoping, *&c.* by all the words that man could invent, without turning our thoughts inward upon the actions of our own ſouls. Yet when we once have attained theſe ideas by ſenſation and reflection, they may be excited afreſh by the uſe of names, words, ſigns, or by any thing elſe that has been connected with them in our thoughts; for when two or more ideas have been aſſociated together, whether it be by cuſtom, or accident, or deſign, the one preſently brings the other to mind.

III. BESIDES theſe two which we have named, there is a third ſort of ideas, which are commonly called abſtracted ideas, becauſe though the original ground or occaſion of them may be ſenſation, or reflection, or both, yet theſe ideas are framed by another act of the mind, which we uſually call abſtraction. Now the word abſtraction ſignifies a withdrawing ſome parts of an idea from other parts of it, by which means ſuch abſtracted ideas are formed, as neither repreſent any thing corporeal or ſpiritual, that is, any thing peculiar or proper to mind or body. Now theſe are of two kinds.

Some of theſe abſtracted ideas are the moſt abſolute general, and univerſal conceptions of things conſidered in themſelves, without reſpect to others, ſuch as entity or being, and not-being, eſſence, exiſtence, act, power, ſubſtance, mode, accident, *&c.*

The other ſort of abſtracted ideas is relative, as when we compare ſeveral things together, and conſider merely the relations of one thing to another, entirely drop-

ping the ſubject of thoſe relations, whether they be corporeal or ſpiritual; ſuch are our ideas of cauſe, effect, likeneſs, unlikeneſs, ſubject, object, indentity, or ſameneſs, and contrariety, order, and other things which are treated of in ontology.

Moſt of the terms of art in ſeveral ſciences may be ranked under this head of abſtracted ideas, as noun, pronoun, verb, in grammar, and the ſeveral particles of ſpeech, as wherefore, therefore, when, how, although, howſoever, &c. So connections, tranſitions, ſimilitudes, tropes, and their various forms in rhetoric.

The abſtracted ideas, whether abſolute or relative, cannot ſo properly be ſaid to derive their immediate, complete, and diſtinct original, either from ſenſation or reflection, (1.) becauſe the nature and the actions both of body and ſpirit give us occaſion to frame exactly the ſame ideas of eſſence, mode, cauſe, effect, likeneſs, contrariety, &c. Therefore theſe cannot be called either ſenſible or ſpiritual ideas, for they are not exact repreſentations either of the peculiar qualities or actions of ſpirit or body, but ſeem to be a diſtinct kind of idea framed in the mind, to repreſent our moſt general conceptions of things, or their relations to one another, without any regard to their natures, whether they be corporeal or ſpiritual. And, (2.) the ſame general ideas of cauſe and effect, likeneſs, &c. may be transferred to a thouſand other kinds of being, whether bodily or ſpiritual, beſides thoſe from whence we firſt derived them: even thoſe abſtracted ideas, which might be firſt occaſioned by bodies, may be as properly afterward attributed to ſpirit.

Now, though Mr Locke ſuppoſes ſenſation and reflection to be the only two ſprings of all ideas, and theſe two are ſufficient to furniſh our minds with all that rich variety of ideas which we have; yet abſtraction is certainly a different act of the mind, whence theſe abſtracted ideas have their original; though perhaps ſenſation or reflection may furniſh us with all the firſt objects and occaſions whence theſe abſtracted ideas are excited and derived. Nor in this ſenſe and view things can I think Mr Locke himſelf would deny

repreſentation of the original of abſtracted ideas, nor forbid them to ſtand for a diſtinct ſpecies.

Note. THOUGH we have divided ideas in this chapter into three ſorts, viz. Senſible, ſpiritual, and abſtracted, yet it may not be amiſs juſt to take notice here, that as man may be called a compound ſubſtance, being made up of body and mind, and the modes which ariſe from this compoſition are called mixed modes, ſuch as ſenſation, paſſion, diſcourſe, *&c.* So the ideas of this ſubſtance or being called man, and of theſe mixed modes may be called mixed ideas, for they are not properly and ſtrictly ſpiritual, ſenſible, or abſtracted. See a much larger account of every part of this chapter in the Philoſophical Eſſays by *I. W.* Eſſay 3, 4, *&c.*

SECT. II.

Of ſimple and complex, compound and collective Ideas.

IDEAS, conſidered in their nature, are either ſimple or complex.

A ſimple idea is one uniform idea, which cannot be divided or diſtinguiſhed by the mind of man into two or more ideas; ſuch are a multitude of our ſenſations, as the idea of ſweet, bitter, cold, heat, white, red, blue, hard, ſoft, motion, reſt, and perhaps extenſion and duration; ſuch are alſo many of our ſpiritual ideas; ſuch as thought, will, wiſh, knowledge, *&c.*

A complex idea is made by joining two or more ſimple ideas together; as a ſquare, a triangle, a cube, a pen, a table, reading, writing, truth, falſehood, a body, a man, a horſe, an angle, a heavy body, a ſwift horſe, *&c.* Every thing that can be divided by the mind into two or more ideas is called complex.

Complex ideas are often conſidered as ſingle and diſtinct beings, though they may be made up of ſeveral ſimple ideas; ſo a body, a ſpirit, a houſe, a tree, a

flower; but when ſeveral of theſe ideas of a different kind are joined together, which are wont to be conſidered as diſtinct ſingle beings, this is called a compound idea, whether theſe united ideas be ſimple or complex. So a man is compounded of body and ſpirit, ſo mithridate is a compound medicine, becauſe it is made of many different ingredients. This I have ſhewn under the doctrine of ſubſtances. And modes alſo may be compounded; harmony is a compound idea, made up of different ſounds united; ſo ſeveral different virtues muſt be united to make up the compounded idea or character either of a hero or a ſaint.

But when many ideas of the ſame kind are joined together, and united in one name, or under one view, it is called a collective idea; ſo an army, or a parliament, is a collection of men; a dictionary, or nomenclature, is a collection of words; a flock is a collection of ſheep; a foreſt or grove a collection of trees; a heap is a collection of ſand, or corn, or duſt, &c. a city is a collection of houſes; a noſegay is a collection of flowers; a month or a year is a collection of days; and a thouſand is a collection of units.

The preciſe difference between a compound and collective idea is this, that a compound idea unites things of a different kind, but a collective idea things of the ſame kind; though this diſtinction in ſome caſes is not accurately obſerved, and cuſtom oftentimes uſes the word compound for collective.

SECT. III.

Of univerſal and particular Ideas, real and imaginary.

IDEAS, according to their objects, may firſt be divided into particular or univerſal.

A particular idea is that which repreſents one thing only.

Sometimes the one thing is repreſented in a looſe

and indeterminate manner, as when we ſay ſome man, any man, one man, another man; ſome horſe, any horſe: one city, or another, which is called by the ſchools *individuum vagum.*

Sometimes the particular idea repreſents one thing in a determinate manner, and then it is called a ſingular idea; ſuch is Bucephalus, or Alexander's horſe, Cicero the orator, Peter the apoſtle, the palace of Verſailles, this book, that river, the new foreſt, or the city of London. That idea, which repreſents one particular determinate thing to me, is called a ſingular idea, whether it be ſimple, or complex, or compound.

The object of any particular idea, as well as the idea itſelf, is ſometimes called an individual; ſo Peter is an individual man, London is an individual city, So this book, one horſe, another horſe, are all individuals; though the word individuals is more uſually limited to one ſingular, certain, and determined object.

An univerſal idea is that which repreſents a common nature agreeing to ſeveral particular things; ſo a horſe, a man, or a book, are called univerſal ideas, becauſe they agree to all horſes, men, or books.

And I think it not amiſs to intimate, in this place, that theſe univerſal ideas are formed by that act of the mind which is called *abſtraction*, that is, a withdrawing ſome part of an idea from other parts of it; for when ſingular ideas are firſt let into the mind by ſenſation or reflection, then, in order to make them univerſal, we leave out or drop all thoſe peculiar and determinate characters, qualities, modes, or circumſtances, which belong merely to any particular individual being, and by which it differs from other beings; and we only contemplate thoſe properties of it wherein it agrees with other beings.

Though it muſt be confeſſed, that the name of abſtracted ideas is ſometimes attributed to univerſal ideas, both ſenſible or ſpiritual, yet this abſtraction is not ſo great, as when we drop out of our idea every ſenſible or ſpiritual repreſentation, and retain nothing but the moſt general and abſolute conceptions of things, or their mere relations to one another, without any regard to their particular natures, whether they be ſen-

ſible or ſpiritual. And it is to this kind of conceptions we more properly give the name of abſtracted ideas, as in the firſt ſection of this chapter.

An univerſal idea is either general or ſpecial.

A *general idea* is called by the ſchools a genus; and it is one common nature agreeing to ſeveral other common natures. So animal is a genus, becauſe it agrees to horſe, lion, whale, butterfly, which are alſo common ideas; ſo fiſh is a genus, becauſe it agrees to trout, herring, crab, which are common natures alſo.

A *ſpecial idea* is called by the ſchools a ſpecies; it is one common nature that agrees to ſeveral ſingular individual beings; ſo horſe is a ſpecial idea, or a ſpecies, becauſe it agrees to Bucephalus, Trott, and Snowball. City is a ſpecial idea, for it agrees to London, Paris, Briſtol.

Note. 1*ſt*, SOME of theſe univerſals are genuſes, if compared with natures more common. So bird is a genus, if compared with eagle, ſparrow, raven, which are alſo common natures; but it is a ſpecies, if compared with the more general nature, animal. The ſame be ſaid of fiſh, beaſt, *&c.*

This ſort of univerſal ideas, which may either be conſidered as a genus or a ſpecies, is called ſubaltern; but the higheſt genus, which is never a ſpecies, is called the moſt general; and the loweſt ſpecies, which is never a genus, is called the moſt ſpecial.

It may be obſerved here alſo, that, that general nature or property wherein one thing agrees with moſt other things, is called its more remote genus; ſo ſubſtance is the remote genus of bird or beaſt, becauſe it agrees not only to all kinds of animals, but alſo to things inanimate, as ſun, ſtars, clouds, metals, ſtones, air, water, *&c.* But animal is the proximate or neareſt genus of bird, becauſe it agrees to feweſt other things. Thoſe general natures which ſtands between the neareſt and moſt remote are called intermediate.

Note. 2*dly*, In univerſal ideas it is proper to conſider their comprehenſion and their extenſion*.

* The word extenſion here is taken in a mere logical ſenſe, and not in a phyſical and mathematical ſenſe.

The comprehenſion of an idea regards all the eſſential modes and properties of it: ſo body in its comprehenſion takes in ſolidity, figure, quantity, mobility, *&c.* So a bowl in its comprehenſion includes roundneſs, volubility, *&c.*

The extension of an univerſal idea regards all the particular kinds and ſingle beings that are contained under it. So a body in its extenſion includes ſun, moon, ſtar, wood, iron, plant, animal, *&c.* which are ſeveral ſpecies, or individuals, under the general name of body. So a bowl, in its extenſion, includes a wooden bowl, a braſs bowl, a white and black bowl, a heavy bowl, *&c.* and all kinds of bowls, together with all the particular individual bowls in the world.

Note. THE comprehenſion of an idea is ſometimes taken in ſo large a ſenſe, as not only to include the eſſential attributes, but all the properties, modes, and relations whatſoever, that belong to any being, as will appear, Chap. VI.

This account of genus and ſpecies is part of that famous doctrine of univerſals, which is taught in the ſchools, with divers other formalities belonging to it; for it is in this place that they introduce difference, which is the primary eſſential mode, and property, or the ſecondary eſſential mode, and accident, or the accidental mode; and theſe they call the five predicables, becauſe every thing that is affirmed concerning any being muſt be either the genus, the ſpecies, the difference, ſome property, ſome accident; but what farther is neceſſary to be ſaid concerning theſe things will be mentioned when we treat of definition.

Having finiſhed the doctine of univerſal and particular ideas, I ſhould take notice of another diviſion of them, which alſo hath reſpect to their objects; and that is, they are either real or imaginary.

Real ideas are ſuch as have a juſt foundation in nature, and have real objects, or examplars, which did, or do, or may actually exiſt, according to the preſent ſtate and nature of things; ſuch are all our ideas of long, broad, ſwift, ſlow, wood, iron, men, horſes, thoughts,

ſpirits, a cruel maſter, a proud beggar, a man ſeven feet high.

Imaginary ideas, which are alſo called fantaſtical, or chimerical, are ſuch as are made by enlarging, diminiſhing, uniting, dividing real ideas in the mind, in ſuch a manner as no objects or exemplars did or ever will exiſt, according to the preſent courſe of nature, though the ſeveral parts of theſe ideas are borrowed from real objects; ſuch are theſe conceptions we have of a centaur, a ſatyr, a golden mountain, a flying horſe, a dog without a head, a bull leſs than a mouſe, or a mouſe as big as a bull, and a man twenty feet high.

Some of theſe fantaſtical ideas are poſſible, that is they are not utterly inconſiſtent in the nature of things, and therefore it is within the reach of divine power to make ſuch objects; ſuch are moſt of the inſtances already given; but impoſſibles carry an utter inconſiſtence in the ideas which are joined: ſuch are ſelf-active matter, and infinite or eternal men, a pious man without honeſty, or heaven without holineſs.

SECT. IV.

The Diviſion of Ideas, with regard to their Qualities.

IDEAS, with regard to their qualities, afford us theſe ſeveral diviſions of them. 1. They are either clear and diſtinct, or obſcure and confuſed. 2. They are vulgar or learned. 3. They are perfect or imperfect. 4. They are true or falſe.

I. OUR ideas are either clear and diſtinct, or obſcure and confuſed.

Several writers have diſtinguiſhed the clear ideas from thoſe that are diſtinct; and the confuſed ideas from thoſe that are obſcure; and it muſt be acknowledged, there may be ſome difference between them; for it is the clearneſs of ideas for the moſt part makes

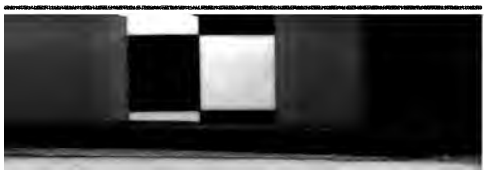
them diſtinct; and the obſcurity of ideas is one thing that will always bring a ſort of confuſion into them. Yet when theſe writers come to talk largely upon this ſubject, and to explain and adjuſt their meaning with great nicety, I have generally found that they did not keep up the diſtinction they firſt deſigned, but they confound the one with the other. I ſhall therefore treat of clear or diſtinct ideas, as one and the ſame ſort, and obſcure or confuſed ideas, as another.

A clear and diſtinct idea is that which repreſents the object of the mind with full evidence and ſtrength, and plainly diſtinguiſhes it from all other objects whatſoever.

An obſcure and confuſed idea repreſents the object either ſo faintly, ſo imperfectly, or ſo mingled with other ideas, that the object of it doth not appear plain to the mind, not purely in its own nature, nor ſufficiently diſtinguiſhed from other things.

When we ſee the ſea and ſky nearer at hand, we have a clear and diſtinct idea of each; but when we look far toward the horizon, eſpecially in a miſty day, our ideas of both are but obſcure and confuſed; for we know not which is ſea and which is ſky. So when we look at the colours of the rainbow, we have a clear idea of the red, the blue, the green in the middle of their ſeveral arches; and a diſtinct idea too, while the eye fixes there; but when we conſider the border of thoſe colours, they ſo run into one another, that it renders their ideas confuſed and obſcure. So the idea which we have of our brother, or our friend, whom we ſee daily, is clear and diſtinct; but when the abſence of many years has injured the idea, it becomes obſcure and confuſed.

Note here, that ſome of our ideas may be very clear and diſtinct in one reſpect, and very obſcure and confuſed in another. So when we ſpeak of a *chiliagonum*, or a figure of a thouſand angles, we may have a clear and diſtinct rational idea of the number one thouſand angles; for we can demonſtrate various properties concerning it by reaſon; but the image, or ſenſible idea, which we have of the figure is but confuſed and obſcure; for we cannot preciſely diſtinguiſh it by fancy



from the image of a figure that has nine hundred angles, or nine hundred and ninety. So when we ſpeak of the infinite diviſibility of matter, we always keep in our minds a very clear and diſtinct idea of diviſion and diviſibility. But after we have made a little progreſs in dividing, and come to parts that are far too ſmall for the reach of our ſenſes, then our ideas, or ſenſible images of theſe little bodies, become obſcure and indiſtinct, and the idea of infinite is very obſcure, imperfect, and confuſed.

II. IDEAS are either vulgar or learned. A vulgar idea repreſents to us the moſt obvious and ſenſible appearances that are contained in the object of them; but a learned idea penetrates farther into the nature, properties, reaſons, cauſes and effects of things. This is beſt illuſtrated by ſome examples.

It is a vulgar idea that we have of a rainbow, when we conceive a large arch in the clouds, made up of various colours parallel to each other; but it is a learned idea which a philoſopher has when he conſiders it as the various reflections and refractions of ſun-beams in drops of falling rain. So it is a vulgar idea which we have of the colours of ſolid bodies, when we perceive them to be, as it were, a red, or blue, or green tincture of the ſurface of thoſe bodies; but it is a philoſophical idea when we conſider the various colours to be nothing elſe but different ſenſations excited in us by the variouſly refracted rays of light reflected on our eyes in a different manner, according to the different ſize, or ſhape, or ſituation of the particles of which the ſurfaces of thoſe bodies are compoſed. It is a vulgar idea, which we have of a watch or clock, when we conceive of it as a pretty inſtrument made to ſhew us the hour of the day; but it is a learned idea which the watchmaker has of it, who knows all the ſeveral parts of it, the ſpring, the balance, the chain, the wheels, their axles, *&c.* together with the various connections and adjuſtments of each part, whence the exact and uniform motion of the index is derived, which points to the minute or the hour. So when a common underſtanding reads Virgil's Æneid, he has but a vulgar

idea of that poem; yet his mind is naturally entertained with the ſtory, and his ears with the verſe; but when a critic, or a man who has ſkill in poeſy, reads it, he has a learned idea of its peculiar beauties; he taſtes and reliſhes a ſuperior pleaſure; he admires the Roman poet, and wiſhes he had known the chriſtian theology, which would have furniſhed him with nobler materials and machines than all the heathen idols.

It is with a vulgar idea that the world beholds the cartoons of Raphael at Hampton-court, and every one feels his ſhare of pleaſure and entertainment; but a painter contemplates the wonders of that Italian pencil, and ſees a thouſand beauties in them which the vulgar eye neglected: his learned ideas give him a tranſcendent delight, and yet, at the ſame time, diſcover the blemiſhes which the common gazer never obſerved.

III. IDEAS are either perfect or imperfect, which are otherwiſe called adequate or inadequate.

Thoſe are adequate ideas which perfectly repreſent their archetypes or objects. Inadequate ideas are but a partial or incomplete repreſentation of thoſe archetypes to which they are referred.

All our ſimple ideas are in ſome ſenſe adequate or perfect; becauſe ſimple ideas, conſidered merely as our firſt perceptions, have no parts in them; ſo we may be ſaid to have a perfect idea of white, black, ſweet, ſour, length, light, motion, reſt, &c. We have alſo a perfect idea of various figures, as a triangle, a ſquare, a cylinder, a cube, a ſphere, which are complex ideas; but our idea or image of a figure of a thouſand ſides, our idea of the city of London, or the powers of a loadſtone, are very imperfect, as well as all our ideas of infinite length or breadth, infinite power, wiſdom, or duration; for the idea of infinite is endleſs and ever growing, and can never be completed.

Note 1. WHEN we have a perfect idea of any thing in all its parts, it is called a complete idea; when in all its properties, it is called comprehenſive. But when we have but an inadequate and imperfect idea, we are only ſaid to apprehend it; therefore uſe the term ap-

CHAP. IV.

OF WORDS, AND THEIR SEVERAL DIVISIONS, TOGETHER WITH THE ADVANTAGE AND DANGER OF THEM.

SECT. I.

Of Words in General, and their Uſe.

THOUGH our ideas are firſt acquired by the perception of objects, or by various ſenſations and reflections, yet we convey them to each other by the means of certain ſounds, or written marks, which we call words; and a great part of our knowledge is both obtained and communicated by theſe means, which are called ſpeech or language.

But as we are led into the knowledge of things by words, ſo we are oftentimes led into error, or miſtake, by the uſe or abuſe of words alſo. And in order to guard againſt ſuch miſtakes, as well as to promote our improvement in knowledge, it is neceſſary to acquaint ourſelves a little with words and terms. We ſhall begin with theſe obſervations.

Obſerv. 1. WORDS (whether they are ſpoken or written) have no natural connection with the ideas they are deſigned to ſignify, nor with the things which are repreſented in thoſe ideas. There is no manner of difference between the ſounds white in Engliſh, or black in French, and that colour which we repreſent by that name; nor have the letters of which theſe words are compoſed, any natural aptneſs to ſignify that colour than red or green. Words and names therefore are mere arbitrary ſigns invented by men to communicate their thoughts or ideas to one another.

Obſerv. 2. If one ſingle word were appointed to ex-

preſs but one simple idea, and nothing elſe, as *white, black, ſweet, ſour, ſharp, bitter, extenſion, duration*, there would be ſcarce any miſtake about them.

But, alas! it is a common unhappineſs in language, that different simple ideas are ſometimes expreſſed by the ſame word; ſo the words ſweet and ſharp are applied both to the objects of hearing and taſting, as we ſhall ſee hereafter; and this, perhaps, may be one cauſe or foundation of obſcurity and error arising from words.

Obſerv. 3. In communicating our complex ideas to one another, if we could join as many peculiar and appropriated words together in one ſound, as we join simple ideas to make one complex one, we ſhould ſeldom be in danger of miſtaking: When I expreſs the taſte of an apple, which we call the bitter ſweet, none can miſtake what I mean.

Yet this ſort of composition would make all language a moſt tedious and unweildy thing, since moſt of our ideas are complex, and many of them have eight or ten simple ideas in them; ſo that the remedy would be worſe than the diſeaſe; for what is now expreſſed in one ſhort word, as month or year, would require two lines to expreſs it. It is neceſſary, therefore, that single words be invented to expreſs complex ideas, in order to make language ſhort and uſeful.

But here is our great infelicity, that when single words ſignify complex ideas, one word can never diſtinctly manifeſt all the parts of a complex idea; and thereby it will often happen, that one man includes more or leſs in his idea, than another does, while he affixes the ſame word to it. In this caſe there will be danger of miſtake between them, for they do not mean the ſame object, though they uſe the ſame name. So if one perſon or nation, by the word year mean twelve months of thirty days each, that is, three hundred and sixty-five days, another intend a ſolar year of three hundred and sixty days, and a third mean a lunar year, or twelve lunar months, that is, three hundred and fifty-four days, there will be a great variation and error in their account of things, unleſs they are well appriſed of each other's meanings before hand. This

is ſuppoſed to be the reaſon why ſome ancient hiſtories and prophecies, and accounts of chronology, are ſo hard to be adjuſted. And this is the true reaſon of ſo furious and endleſs debates on many points in divinity; the words *church*, *worſhip*, *idolatry*, *repentance*, *faith*, *election*, *merit*, *grace*, and many others which ſignify very complex ideas, are not applied to include juſt the ſame simple ideas, and the ſame number of them, by the various contending parties: Thence ariſe confuſion and conteſt.

Obſerv. 4. Though a single name does not certainly manifeſt to us all the parts of a complex idea, yet it muſt be acknowledged, that in many of our complex ideas, the single name may point out to us ſome chief property which belongs to the thing the word ſignifies; eſpecially when the word or name is traced up to its original, through ſeveral languages from whence it is borrowed. So an apoſtle ſignifies one that is ſent forth.

But this tracing of a word to its original, (which is called etymology), is ſometimes a very precarious and uncertain thing; and, after all, we have made but little progreſs towards the attainment of the full meaning of a complex idea, by knowing ſome one chief property of it. We know but a ſmall part of the notion of an apoſtle by knowing barely that he is ſent forth.

Obſerv. 5. Many (if not moſt) of our words which are applied to moral and intellectual ideas, when traced up to the original in the learned languages, will be found to ſignify ſenſible and corporeal things: Thus the words apprehenſion, underſtanding, abſtraction, invention, idea, inference, prudence, religion, church, adoration, *&c.* have all a corporeal ſignification in their original. The name ſpirit itſelf ſignifies breath or air, in Latin, Greek, and Hebrew: Such is the poverty of all languages, they are forced to uſe theſe names for incorporeal ideas, which thing has a tendency to error and confuſion.

Obſerv. 6. The laſt thing I ſhall mention that leads us into many a miſtake is, the multitude of objects that one name ſometimes ſignifies: There is almoſt an infinite variety of things and ideas both ſimple and

complex, beyond all the words that are invented in any language; thence it becomes almoſt neceſſary that one name ſhould ſignify ſeveral things. Let us but conſider the two colours of yellow and blue, if they are mingled together in any conſiderable proportion, they make a green: Now there may be infinite differences of the proportions in the mixture of yellow and blue; and yet we have only theſe three words, yellow, blue, and green, to ſignify all of them, at leaſt by one ſingle term.

When I uſe the word ſhore, I may intend thereby a coaſt of land near the ſea, or a drain to carry off water, or a prop to ſupport a building; and by the ſound of the word porter, who can tell whether I mean a man who bears burdens, or a ſervant who waits at a nobleman's gate? the world is fruitful in the invention of utenſils of life, and new characters and offices of men, yet names entirely new are ſeldom invented; therefore old names are almoſt neceſſarily uſed to ſignify new things, which may occaſion much confuſion and error in the receiving and communicating of knowledge.

Give me leave to propoſe one ſingle inſtance, wherein all thoſe notes ſhall be remarkably exemplified. It is the word biſhop, which in French is called *evêque*; upon which I would make theſe ſeveral obſervations. (1) That there is no natural connection between the ſacred office hereby ſignified, and the letters or ſound which ſignify this office; for both theſe words *evêque* and biſhop ſignify the ſame office, though there is not one letter alike in them; nor have the letters which compoſe the Engliſh or the French word any thing ſacred belonging to them, more than the letters that compoſe the words king or ſoldier. (2.) If the meaning of a word could be learned by its derivation or etymology, yet the original derivation of words is oftentimes very dark and unſearchable; for who would imagine that each of theſe words are derived from the Latin *epiſcopus*, or the Greek EPISCOPOS? Yet in this inſtance we happen to know certainly the true derivation; the French being anciently writ *eveſque*, is borrowed from the firſt part of the Latin word; and the old Engliſh *biſcop* from the middle of it. (3.) The

original Greek word ſignifies an overlooker, or one who ſtands higher than his fellows and overlooks them; it is a compound word, that primarily ſignifies ſenſible ideas, tranſlated to ſignify or include ſeveral moral or intellectual ideas; therefore all will grant that the nature of the office can be never known by the mere ſound or ſenſe of the word overlooker. (4.) I add farther, the word biſhop or *epiſcopus*, even when it is thus tranſlated from a ſenſible idea, to include ſeveral intellectual ideas, may yet equally ſignify an overſeer of the poor; an inſpector of the cuſtoms; a ſurveyor of the highways; a ſupervifor of the exciſe, *&c.* But by the conſent of men, and the language of ſcripture, it is appropriated to ſignify a ſacred office in the church. (5.) This very idea and name, thus tranſlated from things ſenſible, to ſignify a ſpiritual and ſacred thing, contains but one property of it, *(viz.)* one that has an overſight, or care over others; but it does not tell us whether it includes a care over one church, or many; over the laity, or the clergy. (6.) Thence it follows, that thoſe who in the complex idea of the word biſhop include an overſight over the clergy, or over a whole dioceſe of people, a ſuperiority to preſbyters, a diſtinct power of ordination, *&c.* muſt neceſſarily diſagree with thoſe who include in it only the care of a ſingle congregation. Thus according to the various opinions of men, this word ſignifies a pope, a Gallican biſhop, a Lutheran ſuperintendant, an Engliſh prelate, a paſtor of a ſingle aſſembly, or a preſbyter or elder. Thus they quarrel with each other perpetually; and it is well if any of them all have hit preciſely the ſenſe of the ſacred writers, and included juſt the ſame ideas in it, and no others.

I might make all the ſame remarks on the word church or kirk, which is derived from KURIOU OIKOS or the houſe of the Lord, contracted into kyriok, which ſome ſuppoſe to ſignify an aſſembly of chriſtians, ſome take it for all the world that profeſſes chriſtianity, and ſome make it to mean only the clergy, and on theſe accounts it has been the occaſion of as many and as furious controverſies as the word biſhop which was mentioned before.

SECT. II.

Of negative and positive Terms.

FROM these and other considerations it will follow, that if we would avoid error in our pursuit of knowledge, we must take good heed to the use of words and terms, and be acquainted with the various kinds of them.

I. TERMS are either positive or negative.

Negative terms are such as have a little word or syllable of denying joined to them, according to the various idioms of every language, as unpleasant, imprudent, immortal, irregular, ignorant, infinite, endless, lifeless, deathless, nonsense, abyss, anonymous, where the prepositions un, im, in, non, a, an, and the termination less, signify a negation, either in English, Latin or Greek.

Positive terms are those which have no such negative appendices belonging to them, as life, death, end, sense, mortal.

But so unhappily are our words and ideas linked together, that we can never know which are positive ideas, and which are negative, by the word that is used to express them, and that for these reasons;

There are some positive terms which are made to signify a negative idea; as dead is properly a thing that is deprived of life; blind implies a negation or privation of sight; deaf a want of hearing; dumb a denial of speech.

2*dly*, There are also some negative terms which imply positive ideas, such as immortal and deathless, which signify ever-living, or a continuance in life; insolent signifies rude and haughty; indemnify, to keep safe; and infinite perhaps has a positive idea too, for it is an idea ever growing; and when it is applied to God, it signifies his complete perfection.

3*dly*, There are both positive and negative terms, invented to signify the same and contrary ideas; as un-

happy and miſerable, ſinleſs and holy, pure and undefiled, impure and filthy, unkind and cruel, irreligious and profane, unforgiving and revengeful, *&c.* and there is great deal of beauty and convenience derived to any language from this variety of expreſſion; though ſometimes it a little confounds our conceptions of being and not-being, our poſitive and negative ideas.

4thly, I may add alſo, that there are ſome words which are negative in their original language, but ſeem poſitive to an Engliſhman, becauſe the negation is unknown; as abyſs, a place without a bottom; anodyne, an eaſing medicine; amneſty, an unremembrance, or general pardon; anarchy, a ſtate without government; anonymous, that is, nameleſs; inept, that is, not fit; iniquity, that is, unrighteouſneſs; infant, one that cannot ſpeak, *(viz.)* a child; injurious, not doing juſtice or right.

The way therefore to know whether any idea be negative or not is to conſider whether it primarily imply the abſence, of any poſitive being, or mode of being; if it doth, then it is a negation or negative idea; otherways it is a poſitive one, whether the word that expreſſes it be poſitive or negative. Yet after all, in many caſes this is very hard to determine, as in amneſty, infinite, abyſs, which are originally relative terms, but they ſignify pardon, *&c.* which ſeem to be poſitives. So darkneſs, madneſs, clown, are poſitive terms, but they imply the want of light, the want of reaſon, and the want of manners; and perhaps theſe may be ranked among the negative ideas.

Here note, that in the Engliſh tongue two negative terms are equal to one poſitive, and ſignify the ſame thing, as not unhappy, ſignifies happy; not immortal, ſignifies mortal; he is no imprudent man, that is, he is a man of prudence; but the ſenſe and force of the word in ſuch a negative way of expreſſions ſeem to be a little diminiſhed.

SECT. III.

Of ſimple and complex Terms.

II. TERMS are divided into ſimple or complex. A ſimple term is one word, a complex term is when more words are uſed to ſignify one thing.

Some terms are complex in words, but not in ſenſe, ſuch is the ſecond emperor of Rome; for it excites in our minds only the idea of one man (viz.) Auguſtus.

Some terms are complex in ſenſe, but not in words; ſo when I ſay an army, a foreſt, I mean a multitude of men, or trees; and almoſt all our moral ideas, as well as many of our natural ones, are expreſſed in this manner; religion, piety, loyalty, knavery, theft, include a variety of ideas in each term.

There are other terms which are complex both in words and ſenſe; ſo when I ſay a fierce dog, or a pious man, it excites an idea, not only of thoſe two creatures, but of their peculiar characters alſo.

Among the terms that are complex in ſenſe, but not in words, we may reckon thoſe ſimple terms which contain a primary and a ſecondary idea in them; as when I hear my neighbour ſpeak that which is not true, and I ſay to him this is not true, or this is falſe, I only convey to him the naked idea of his error; this is the primary idea: but if I ſay it is a lie, the word lie carries alſo a ſecondary idea in it, for it implies both the falſhood of the ſpeech, and my reproach and cenſure of the ſpeaker. On the other hand, if I ſay it is a miſtake, this carries alſo a ſecondary idea with it; for it not only refers to the falſhood of his ſpeech, but includes my tenderneſs and civility to him at the ſame time. Another inſtance may be this; when I uſe the word inceſt, adultery, and murder, I convey to another not only the primary idea of thoſe actions, but I include alſo the ſecondary idea of their unlawfulneſs, and my abhorrence of them.

Note 1. Hence it comes to paſs, that among words which ſignify the ſame principal ideas ſome are clean

and decent, others unclean; ſome chaſte, others obſcene; ſome are kind, others are affronting and reproachful, becauſe of the ſecondary idea which cuſtom has affixed to them. And it is the part of a wiſe man, when there is a neceſſity of expreſſing any evil actions, to do it either by a word that has a ſecondary idea of kindneſs, or ſoftneſs; or a word that carries in it an idea of rebuke and ſeverity, according as the caſe requires. So when there is a neceſſity of expreſſing things unclean or obſcene, a wiſe man will do it in the moſt decent language, to excite as few uncleanly ideas as poſſible in the minds of the hearers.

Note 2. In length of time, and by the power of cuſtom, words ſometimes change their primary ideas, as ſhall be declared and ſometimes they have changed their ſecondary ideas, though the primary ideas may remain: ſo words that were once chaſte, by frequent uſe grow obſcene and uncleanly; and words that were once honourable, may in the next generation grow mean and contemptible. So the word dame originally ſignified a miſtreſs of a family, who was a lady, and it is uſed ſtill in the Engliſh law to ſignify a lady; but in common uſe now-a-days it repreſents a farmer's wife, or a miſtreſs of a family of the lower rank in the country. So thoſe words of Rabſhaketh, Iſa. xxxvi. 12. in our tranſlation, (eat their own dung, *&c.*) were doubtleſs decent and clean language, when our tranſlators wrote them above a hundred years ago. The word dung has maintained its old ſecondary idea and inoffenſive ſenſe to this day; but the other word in that ſentence has by cuſtom acquired a more uncleanly idea, and ſhould now rather be changed into a more decent term, and ſo it ſhould be read in public, unleſs it ſhould be thought more proper to omit the ſentence.*

For that reaſon it is, that the Jewiſh rabbins have ſupplied other chaſte words in the margin of the Hebrew bible, where the words of the text, through time and cuſtom are degenerated, ſo as to carry any baſe

* So in ſome places of the ſacred hiſtorians, where it is written every one that piſſes againſt the wall, we ſhould read every male.

and unclean ſecondary idea in them; and they read the word which is in the margin, which they call *keri*, and not that which was written in the text which they call *chetib*.

SECT. IV.

Of Words common and proper.

III. WORDS and names are either common or proper. Common names are ſuch as ſtand for univerſal ideas, or a whole rank of beings, whether general or ſpecial. Theſe are called appellatives; ſo fiſh, bird, man, city, river, are common names; and ſo are trout, eel, lobſter, for they all agree to many individuals, and ſome of them to many ſpecies: but Cicero, Virgil, Bucephalus, London, Rome, Ætna, the Thames, are proper names, for each of them agrees only to one ſingle being.

Note here firſt, that a proper name may become in ſome ſenſe common, when it hath been given to ſeveral beings of the ſame kind; ſo Cæſar, which was the proper name of the firſt emperor, Julius, became alſo a common name to all the following emperors. And tea, which was the proper name of one ſort of Indian leaf, is now-a-days become a common name for many infuſions of herbs, or plants, in water; as ſage-tea, ale-hoof-tea, limon-tea, *&c.* So Peter, Thomas, John, William, may be reckoned common names alſo, becauſe they are given to many perſons, unleſs they are determined to ſignify a ſingle perſon at any particular time or place.

Note in the ſecond place, that a common name may become proper by cuſtom, or by the time or place, or perſons that uſe it; as in Great Britain, when we ſay the King, we mean our preſent rightful ſovereign King George, who now reigns; when we ſpeak of the prince, we intend his royal highneſs Frederick Prince

of Wales: if we mention the city when we are near London, we generally mean the city of London; when in a country town, we ſay the parſon or the eſquire, all the pariſh knows who are the ſingle perſons intended by it; ſo when we are ſpeaking of the hiſtory of the New Teſtament, and uſe the words Peter, Paul, John, we mean thoſe three apoſtles.

Note in the third place, that any common name whatſoever is made proper, by terms of particularity added to it, as the common words Pope, King, horſe, garden, book, knife, *&c.* are deſigned to ſignify a ſingular idea, when we ſay the preſent pope; the King of Great Britain; the horſe that won the laſt plate at New-Market; the royal garden at Kenſington; this book; that knife, *&c.*

SECT. V.

Of concrete and abſtract Terms.

IV. WORDS or terms are divided into abſtract or concrete.

Abſtract terms ſignify the mode or quality of a being, without any regard to the ſubject in which it is; as whiteneſs, roundneſs, length, breadth, wiſdom, mortality, life, death.

Concrete terms, while they expreſs the quality, do alſo either expreſs, or imply, or refer to ſome ſubject to which it belongs; as white, round, long, broad, wiſe, mortal, living, dead: but theſe are not always noun adjectives in a gramatical ſenſe; for a fool, a knave, a philoſopher and many other concretes are ſubſtantives, as well as folly, knavery, and philoſophy, which are the abſtract terms that belong to them.

SECT. VI.

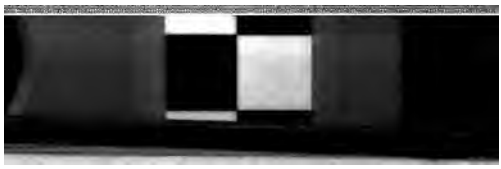
Of univocal and equivocal Words.

V. WORDS and terms are either univocal or equivocal. Univocal words are ſuch as ſignify but one idea, or at leaſt but one ſort of thing; equivocal words are ſuch as ſignify two or more different ideas, or different ſorts of objects. The words book, bible, fiſh, houſe, elephant, may be called univocal words; for I know not that they ſignify any thing elſe but thoſe ideas to which they are generally affixed; but head is an equivocal word, for it ſignifies the head of a nail, or of a pin, as well as of an animal: nail is an equivocal word, it is uſed for the nail of the hand or foot, and for an iron nail to faſten any thing; poſt is equivocal, it is a piece of timber, or a ſwift meſſenger. A church is a religious aſſembly, or the large fair building where they meet; and ſometimes the ſame word means a ſynod of biſhops or of preſbyters, and in ſome places it is the Pope and a general council.

Here let it be noted, that when two or more words ſignify the ſame thing, as wave and billow, mead and meadow, they are uſually called ſynonymous words; but it ſeems very ſtrange, that words, which are directly contrary to each other, ſhould ſometimes repreſent almoſt the ſame ideas; yet thus it is in ſome few inſtances, a valuable, or an invaluable bleſſing; a ſhameful, or a ſhameleſs villian; a thick ſkull, or a thin ſkull'd fellow, a mere paper ſkull: a man of a large conſcience, little conſcience, or no conſcience; a famous raſcal, or an infamous one: ſo uncertain a thing is human language, whoſe foundation and ſupport is cuſtom.

As words ſignifying the ſame thing are called ſynonymous; ſo equivocal words, or thoſe which ſignify ſeveral things, are called homonymous, or ambiguous and when perſons uſe ſuch ambiguous words, with a deſign to deceive, it is called equivocation.

Our ſimple ideas, and eſpecially the ſenſible qualities, furniſh us with a great variety of equivocal or ambi-



guous words; for theſe being the firſt, and moſt natural ideas we have, we borrow ſome of their names, to ſignify many other ideas, both ſimple and complex. The word ſweet expreſſes the pleaſant perceptions of almoſt every ſenſe; ſugar is ſweet, but it hath not the ſame ſweetneſs as muſic; nor hath muſic the ſweetneſs of a roſe; and a ſweet proſpect differs from them all; nor yet have any of theſe the ſame ſweetneſs as diſcourſe, counſel, or meditation hath: yet the royal Pſalmiſt ſaith of a man, we took ſweet counſel together; and of God, my meditation of him ſhall be ſweet. Bitter is alſo ſuch an equivocal word; there is bitter wormwood, there are bitter words, there are bitter enemies, and a bitter cold morning. So there is a ſharpneſs in vinegar, and there is a ſharpneſs in pain, in ſorrow, and in reproach; there is a ſharp eye, a ſharp wit, and a ſharp ſword: but there is not one of theſe ſeven ſharpneſſes the ſame as another of them, and a ſharp eaſt wind is different from them all.

There are alſo verbs, or words of action, which are equivocal as well as nouns or names. The words to bear, to take, to come, to get, are ſufficient inſtances of it; as when we ſay, to bear a burden, to bear ſorrow or to bear a name, to bear a grudge, to bear children; the word bear is uſed in very different ſenſes; and ſo is the word get, when we ſay, to get money, to get in, to get off, to get ready, to get a ſtomach, and to get a cold, &c.

There is alſo a great deal of ambiguity in many of the Engliſh particles, as, but, before, beſide, with, without, that, then, there, for, forth, above about, &c. of which grammars and dictionaries will ſufficiently inform us.

SECT. VII.

Various Kinds of equivocal Words.

IT would be endleſs to run through all the varieties of words and terms, which have different ſenſes

applied to them; I ſhall only mention therefore a few of the moſt remarkable and moſt uſeful diſtinctions among them.

1*ſt*, THE firſt diviſion of equivocal words lets us know that ſome are equivocal only in their ſound or pronunciation; others are equivocal only in writing; and others, both in writing and in ſound.

Words equivocal in ſound only, are ſuch as theſe; the rein of a bridle, which hath the ſame ſound with the reign of a king, or a ſhower of rain, but all three have different letters, and diſtinct ſpelling. So might, or ſtrength, is equivocal in ſound, but differs in writing from mite, a little animal, or a ſmall piece of money. And the verb to write, has the ſame ſound with wright a workman, right or equity, and rite or ceremony, but it is ſpelled very differently from them all.

Words equivocal in writing only, are ſuch as theſe; to tear to pieces has the ſame ſpelling with a tear; to lead, or guide, has the ſame letters as lead the metal; and a bowl for recreation, is written the ſame way as a bowl for drinking; but the pronunciation of all theſe is different.

But thoſe words, which are moſt commonly and juſtly called equivocal, are ſuch as are both written and pronounced the ſame way, and yet have different ſenſes or ideas belonging to them; ſuch are all the inſtances which were given in the preceding ſection.

Among the words which are equivocal in ſound only, and not in writing, there is a large field for perſons who delight in jeſts, and puns, in riddles and quibbes, to ſport themſelves. This ſort of words is alſo uſed by wanton perſons to convey lewd ideas, under the covert of expreſſions capable of a chaſte meaning, which are called *double entendres*: or when perſons ſpeak falſehood with a deſign to deceive, under the covert of truth. Though it muſt be confeſſed, that all ſorts of equivocal words yield ſufficient matter for ſuch purpoſes.

There are many caſes alſo, wherein an equivocal word is uſed for the ſake of decency to cover a foul idea; for the moſt chaſte and modeſt, and well-bred

perſons, having ſometimes a neceſſity to ſpeak of the things of nature, convey their ideas in the moſt inoffenſive language by this means. And indeed, the mere poverty of all languages makes it neceſſary to uſe equivocal words upon many occaſions, as the common writings of men, and even the holy book of God ſufficiently manifeſt.

2*dly*, Equivocal words are uſually diſtinguiſhed, according to their original, into ſuch, whoſe various ſenſes ariſe from mere chance or accident, and ſuch as are made equivocal by deſign; as the word bear ſignifies a ſhaggy beaſt, and it ſignifies alſo to bear or carry a burden; this ſeems to be the mere effect of chance; but if I call my dog, bear, becauſe he is ſhaggy, or call one of the northern conſtellations by that name, from a fancied ſituation of the ſtars in the ſhape of that animal, then it is by deſign that the word is made yet farther equivocal.

But becauſe I think this common account of the ſpring or origin of equivocal words is too ſlight and imperfect, I ſhall reſerve this ſubject to be treated by itſelf, and proceed to the third diviſion.

3*dly*, Ambiguous, or equivocal words, are are ſometimes taken in a large and general ſe ſometimes in a ſenſe more ſtrict and limited, different ideas affixed to them accordingly. or virtue, taken in a large ſenſe, includes bo to God and our neighbour; b n a limited, and proper ſenſe, virtu fies wards men, and religion our may yet be taken in the ſtrict fies power or courage, whi places in the new Teſta large ſenſe means the favo bleſſings that proceed ſenſe of it in the bible) the habit of holineſs w a complex idea of t alſo taken in the ſtr any ſingle chriſtian it is uſed for liber

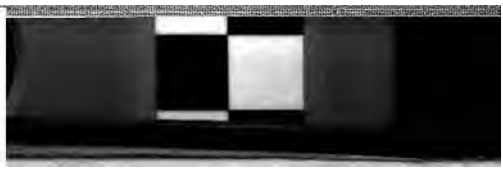
per ſenſe, means the houſes incloſed within the walls; in a larger ſenſe it reaches to all the ſuburbs.

This larger and ſtricter ſenſe of a word is uſed in almoſt all the ſciences, as well as in theology, and in common life. The word geography, taken in a ſtrict ſenſe, ſignifies the knowledge of the circles of the earthly globe, and the ſituation of the various parts of the earth; when it is taken in a little larger ſenſe, it includes the knowledge of the ſeas alſo; and in the largeſt ſenſe of all, it extends to the various cuſtoms, habits and governments of nations. When an aſtronomer uſes the word ſtar in its proper and ſtrict ſenſe, it is applied only to the fixed ſtars, but in a large ſenſe, it includes the planets alſo.

This equivocal ſenſe of words belongs alſo to many proper names: ſo Aſia taken in the largeſt ſenſe, is one quarter of the world; in a more limited ſenſe it ſignifies Natolia, or the leſſer Aſia; but in the ſtricteſt ſenſe it means no more than one little province of Natolia, where ſtood the cities of Epheſus, Smyrna, Sardis, *&c.* And this is the moſt frequent ſenſe of it in the New Teſtament. Flanders and Holland, in a ſtrict ſenſe, are but tw[illegible]le provinces among the ſeventeen, but in a lar[illegible] Holland includes ſeven of them, and Flande[illegible]

'Th[illegible] ſome very common and little words in all [illegible] hat are uſed [illegible]ore extenſive or more[illegible] e; ſuch a[illegible], whatſoever, &c. [illegible] apoſtle ſa[illegible]ave ſinned, and all [illegible], all is ta[illegible]t univerſal and exte[illegible] includi[illegible]nd, Rom. v. 12. W[illegible] nts pra[illegible]de for all men, it ap[illegible] follow[illegible] hat he reſtrains the w[illegible] [illegible]nks and degrees of [illegible] [illegible]t Paul ſays, *I pleaſe* [illegible]. the word all is ex[illegible]es no farther than that [illegible]n he converſed with, in

[illegible]re in the fourth place dif[illegible]r figurative ſenſe. Words [illegible]eral ſenſe when they are de-



ſigned to ſignify thoſe ideas for which they were originally made, or to which they are primarily and generally annexed; but they are uſed in a figurative or tropical ſenſe, when they are made to ſignify ſome things, which only bear either a reference or a reſemblance to the primary ideas of them. So when two princes contend by their armies, we ſay they are at war in a proper ſenſe; but when we ſay there is a war betwixt the winds and the waves in a ſtorm, this is called figurative, and the peculiar figure is a metaphor. So when the ſcriptures ſay, riches make themſelves wings, and fly away as an eagle toward heaven, the wings and the flight of the eagle are proper expreſſions; but when flight and wings are applied to riches, it is only by way of figure and metaphor. So when man is ſaid to repent, or laugh, or grieve, it is literally taken; but when God is ſaid to be grieved, to repent, or laugh, *&c.* theſe are all figurative expreſſions, borrowed from a reſemblance to mankind. And when the words Job or Eſther are uſed to ſignify thoſe very perſons, it is the literal ſenſe of them; but when they ſignify thoſe two books of ſcripture, this is a figurative ſenſe. The names of Horace, Juvenal, and Milton, are uſed in the ſame manner, either for books or men.

When a word, which originally ſignifies any particular idea or object, is attributed to ſeveral other objects, not ſo much by way of reſemblance, but rather on the account of ſome evident reference or relation to the original idea, this is ſometimes peculiarly called an analogical word; ſo a ſound or healthy pulſe; a ſound digeſtion; ſound ſleep; are ſo called, with reference to a ſound and healthy conſtitution; but if you ſpeak of ſound doctrine, or ſound ſpeech, this is by way of reſemblance to health, and the words are metaphorical: yet many times analogy and metaphor are uſed promiſcuouſly in the ſame ſenſe and not diſtinguiſhed.

Here *note*, that the deſign of metaphorical language and figures of ſpeech is not merely to repreſent our ideas, but repreſent them with vivacity, ſpirit, affection, and power; and though they often make a deep-

er impreſſion on the mind of the hearer, yet they do as often lead him into a miſtake, if they are uſed at improper times and places. Therefore, where the deſign of the ſpeaker or writer is merely to explain, to inſtruct, and to lead into the knowledge of naked truth, he ought, for the moſt part, to uſe plain and proper words, if the language affords them, and not to deal much in figurative ſpeech. But this ſort of terms is uſed very profitably by poets and orators, whoſe buſineſs is to move, and perſuade, and work on the paſſions as well as on the underſtanding. Figures are alſo happily employed in proverbial moral ſayings by the wiſeſt and the beſt of men, to impreſs them deeper on the memory by ſenſible images; and they are often uſed for other valuable purpoſes in the ſacred writings.

5thly, I might adjoin another ſort of equivocal words; as there are ſome which have a different meaning in common language, from what they have in the ſciences; the word paſſion ſignifies the receiving any action in a large philoſophical ſenſe; in a more limited philoſophical ſenſe, it ſignifies any of the affections of human nature, as love, fear, joy, ſorrow, *&c.* But the common people confine it only to anger. So the word ſimple philoſophically ſignifies ſingle, but vulgarly it is uſed for fool ſh.

6thly, Other equivocal words are uſed ſometimes in an abſolute ſenſe, as when God is called perfect, which allows of no defect: and ſometimes in a comparative ſenſe, as good men are oftentimes called perfect in ſcripture, in compariſon of thoſe who are much inferior to them in knowledge or holineſs: but I have dwelt rather too long upon this ſubject already, therefore I add no more.

SECT. VIII.

The Origin or Cauſes of equivocal Words.

NOW, that we may become more ſkilful in guarding ourſelves and others againſt the dangers of miſtake which may ariſe from equivocal words, it may not be amiſs to conclude this chapter with a ſhort account of the various ways or means whereby a word changes its ſignification, or acquires any new ſenſe, and thus becomes equivocal, eſpecially if it keeps its old ſenſe alſo.

1. MERE chance ſometimes gives the ſame word different ſenſes; as the word light ſignifies a body that is not heavy; and it alſo ſignifies the effect of ſun-beams, or the medium whereby we ſee objects: this is merely accidental, for there ſeems to be no connection between theſe two ſenſes, nor any reaſon for them.

2. Error and miſtake is another occaſion of giving various ſenſes to the ſame word; as when different perſons read the names of *prieſt*, *biſhop*, *church*, *eaſter*, &c. in the New Teſtament, they affix different ideas to them, for want of acquaintance with the true meaning of the ſacred writer; though it muſt be confeſſed, theſe various ſenſes, which might ariſe at firſt from honeſt miſtake, may be culpably ſupported and propagated by intereſt, ambition, prejudice, and a party-ſpirit on any ſide.

3. Time and cuſtom alters the meaning of words. Knave heretofore ſignified a diligent ſervant *(Gnavus;)* and a villain was a nearer tenant to the lord of the manor *(Villicus;)* but now both theſe words carry an idea of wickedneſs and reproach to them. A ballad once ſignified a ſolemn and ſacred ſong, as well as one that is trivial, when Solomon's Song was called the ballad of ballads; but now it is applied to nothing but trifling verſe, or comical ſubjects.

4. Words change their ſenſe by figures and meta-

phors, which are derived from ſome real anology or reſemblance betweeen ſeveral things; as when wings and flight are applied to riches, it ſignifies only, that the owner may as eaſily loſe them, as he would loſe a bird who flew away with wings.

And I think, under this head, we may rank thoſe words, which ſignify different ideas, by a ſort of an unaccountable far-fetcht analogy, or diſtant reſemblance that fancy has introduced between one thing and another; as when we ſay, the meat is green, when it is half-roaſted: we ſpeak of airing linen by the fire, when we mean drying or warming it: we call for round coals for the chimney, when we mean large ſquare ones: and we talk of the wing of a rabbit when we mean the fore-leg: the true reaſon of theſe appellations we leave to the critics.

5. Words alſo change their ſenſe by the ſpecial occaſion of using them, the peculiar manner of pronounciation, the ſound of the voice, the motion of the face, or geſtures of the body; ſo when an angry maſter ſays to his ſervant, it is bravely done, or you are a fine gentleman, he means juſt the contrary; namely, it is very ill done; you are a ſorry fellow: it is one way of giving a ſevere reproach, for the words are ſpoken by way of ſarcaſm or irony.

6. Words are applied to various ſenſes, by new ideas appearing or arising faſter than new words are framed. So when gun-powder was found out, the word powder, which before ſignified only duſt, was made then to ſignify that mixture or compoſition of nitre, charcoal, *&c.* And the name canon, which before ſignified a law, or a rule, is now alſo given to a great gun, which gives laws to nations. So foot-boys, who had frequently the common name of Jack given them, were kept to turn the ſpit, or to pull of their maſter's boots; but when inſtruments were invented for both theſe ſervices, they were both called jacks, though one was of iron, the other of wood, and very different in their form.

7. Words alter their ſignifications according to the ideas of the various perſons, ſects, or parties who uſe them, as we have hinted before; ſo when a papiſt uſes the word heretics, he generally means the proteſtants;

when a proteſtant uſes the word, he means any perſons who were wilfully (and perhaps contentiouſly) obſtinate in fundamental errors. When a Jew ſpeaks of the true religion, he means the inſtitution of Moſes; when a Turk mentions it, he intends the doctrine of Mahomet: but when a Chriſtian makes uſe of it, he deſigns to ſignify Chriſtianity, or the truths and precepts of the goſpel.

8. Words have different ſignifications according to the book, writing, or diſcourſe in which they ſtand. So in a treatiſe of anatomy, a foot ſignifies that member in the body of man: But in a book of geometry or menſuration, it ſignifies twelve inches.

If I had room to exemplify moſt of theſe particulars in one ſingle word, I know not where to chuſe a fitter than the word *ſound*, which ſeems (as it were) by chance, to ſignify three diſtinct ideas, *(viz.) healthy* (from *ſanus*) as a ſound body; *noiſe*, (from *ſonus*) as a ſhrill ſound: and to *ſound* the ſea (perhaps from the French *ſonde*, a probe, or an inſtrument to find the depth of water.) From theſe three, which I may call original ſenſes, various derivative ſenſes ariſe; as ſound *ſleep*, ſound *lungs*, ſound *wind* and *limb*, a ſound *heart*, a ſound *mind*, ſound *doctrine*, a ſound *divine*, ſound *reaſon*, a ſound *caſk*, ſound *timber*, a ſound *reproof*, to *beat one* ſoundly, to ſound one's *meaning*, or *inclination*, and a ſound or *narrow ſea*; turn all theſe into Latin, and the variety will appear plain.

I confeſs, ſome few of theſe which I have mentioned as the different ſprings of equivocal words, may be reduced in ſome caſes to the ſame original: but it muſt alſo be granted, that there may be other ways beſides theſe whereby a word comes to extend its ſignification, to include various ideas, and become equivocal. And though it is the buſineſs of a grammarian to purſue theſe remarks with more variety and particularity, yet it is alſo the work of a logician to give notice of theſe things, leſt darkneſs, confuſion and perplexity be brought into our conceptions by the means of words, and thence our judgments and reaſonings become erroneous.

CHAP. V.

GENERAL DIRECTIONS RELATING TO OUR IDEAS.

Direction I. FURNISH yourſelves with a rich variety of ideas; acquaint yourſelves with things ancient and modern; things natural, civil and religious; things domeſtic and national; things of your native land, and of foreign countries; things preſent, paſt and future; and above all, be well acquainted with God and yourſelves; learn animal nature, and the workings of your own ſpirits.

Such a general acquaintance with things will be of very great advantage.

The firſt benefit of it is this; it will aſſiſt the uſe of reaſon in all its following operations; it will teach you to judge of things aright, to argue juſtly, and methodiſe your thoughts with accuracy. When you ſhall find ſeveral things a-kin to each other, and ſeveral different from each other, agreeing in ſome part of their idea, and diſagreeing in other parts, you will range your ideas in better order, you will be more eaſily led into a diſtinct knowledge of things, and will obtain a rich ſtore of proper thoughts and arguments upon all occaſions.

You will tell me perhaps, that you deſign the ſtudy of the law or divinity; and what good can natural philoſophy or mathematics do you, or any other ſcience, not directly ſubordinate to your chief deſign? but let it be conſidered, that all ſciences have a ſort of mutual connection; and knowledge of all kinds fit the mind to reaſon and judge better concerning any particular ſubject. I have known a judge upon the bench betray his ignorance, and appear a little confuſed in his ſentiments about a caſe of ſuſpected murder brought before him, for want of ſome acquaintance with animal nature and philoſophy.

Another benefit of it is this: ſuch a large and general acquaintance with things will ſecure you from perpetual admirations and ſurprizes, and guard you againſt that weakneſs of ignorant perſons, who have

never ſeen any thing beyond the confines of their own dwelling, and therefore they wonder at almoſt every thing they ſee; every thing beyond the ſmoke of their own chimney, and reach of their own windows, is new and ſtrange to them.

A third benefit of ſuch an univerſal acquaintance with things, is this; it will keep you from being too poſitive and dogmatical, from an exceſs of credulity and unbelief, that is, a readineſs to believe, or to deny every thing at firſt hearing; when you ſhall have often ſeen, that ſtrange and uncommon things, which often ſeemed incredible, are found to be true; and things very commonly received have been found falſe.

The way of attaining ſuch an extenſive treaſure of ideas, is, with diligence to apply yourſelf to read the beſt books, converſe with the moſt knowing and the wiſeſt of men, and endeavour to improve by every perſon in whoſe company you are; ſuffer no hour to paſs away in a lazy idleneſs, and impertinent chattering or uſeleſs trifles: viſit other cities and countries, when you have ſeen your own, under the care of one who can teach you to profit by travelling, and to make wiſe obſervations; indulge a little curioſity in ſeeing the wonders of art and nature; ſearch into things yourſelves, as well as learn them from others: be acquainted with men as well as books; learn all things as much as you can at firſt hand; and let as many of your ideas as poſſible be the repreſentations of things, and not merely the repreſentations of other men's ideas: thus your ſoul, like ſome noble building ſhall be richly furniſhed with original paintings, and not with mere copies.

Direct. II. *Uſe the moſt proper methods to retain that treaſure of ideas which you have acquired;* for the mind is ready to let many of them ſlip, unleſs ſome pains and labour be taken to fix them upon the memory.

And more eſpecially let thoſe ideas be laid up and preſerved with the greateſt care, which are moſt directly ſuited, either to your eternal welfare as a Chriſtian, or to your particular ſtation and profeſſion in this life; for though the former rule recommends an univerſal acquaintance with things, yet it is but a more general

and ſuperficial knowledge that is required or expected of any man, in things which are utterly foreign to his own buſineſs; but it is neceſſary you ſhould have a more particular and accurate acquaintance with thoſe things that refer to your peculiar province and duty in this life, or your happineſs in another.

There are ſome perſons who never arrive at any deep, ſolid, or valuable knowledge in any ſcience, or any buſineſs of life; becauſe they are perpetually fluttering over the ſurface of things in a curious and wandering ſearch of infinite variety: ever hearing, reading, or aſking after ſomething new, but impatient of any labour to lay up and preſerve the ideas they have gained: their ſouls may be compared to a looking-glaſs, that whereſoever you turn it, it receives the images of all objects, but retains none.

In order to preſerve your treaſure of ideas and the knowledge you have gained, purſue theſe advices, eſpecially in your younger years.

1. *Recollect every day the things you have ſeen, or heard, or read*, which may have made any addition to your underſtanding: read the writings of God and men with diligence and perpetual reviews: be not fond of haſtening to a new book, or a new chapter, till you have well fixed and eſtabliſhed in your minds what was uſeful in the laſt: make uſe of your memory in this manner, and you will ſenſibly experience a gradual improvement of it, while you take care not to load it to exceſs.

2. *Talk over the things which you have ſeen, heard or learned with ſome proper acquaintance*; this will make a freſh impreſſion upon your memory; and if you have no fellow-ſtudent at hand, none of equal rank with yourſelves, tell it over to any of your acquaintance, where you can do it with propriety and decency; and whether they learn any thing by it or no, your own repetition of it will be an improvement to yourſelf: and this practice alſo will furniſh you with a variety of words and copious language, to expreſs your thoughts upon all occaſions.

3. *Commit to writing ſome of the moſt conſiderable*

improvements which you daily make, at leaſt ſuch hints as may recal them again to your mind, when perhaps they are vaniſhed and loſt. And here I think Mr Locke's method of adverſaria or common places, which he deſcribes in the end of the firſt volume of his poſthumous works, is the beſt; uſing no learned method at all, ſetting down things as they occur, leaving a diſtinct page for each ſubject, and making an index to the pages.

At the end of every week, or month, or year, you may review your remarks for theſe reaſons; firſt, to judge of your own improvement, when you ſhall find that many of your younger collections are either weak and trifling; or if they are juſt and proper, yet they are grown now ſo familiar to you, that you will thereby ſee your own advancement in knowledge. And in the next place, what remarks you find there worthy of your riper obſervations, you may note them with a marginal ſtar, * inſtead of tranſcribing them, as being worthy of your ſecond year's review, when the others are neglected.

To ſhorten ſomething of this labour, if the books which you read are your own, mark with a pen, or pencil, the moſt conſiderable things in them which you deſire to remember. Thus you may read that book the ſecond time over with half the trouble, by your eye running over the paragraphs which your pencil has noted. It is but a very weak objection againſt this practice, to ſay, I ſhall ſpoil my book; for I perſuade myſelf, that you did not buy it as a bookſeller, to ſell it again for gain, but as a ſcholar to improve your mind by it; and if the mind be improved, your advantage is abundant, though your book yields leſs money to your executors.

Direct. III. *As you proceed both in learning and in*

* Note, this advice of writing, marking, and reviewing your marks, refer chiefly to thoſe occaſional notions you meet with either in reading or in converſation; but when you are directly and profeſſedly purſuing any ſubject of knowledge in a good ſyſtem in your younger years, the ſyſtem itſelf is your common place book, and muſt be entirely reviewed. The ſame may be ſaid concerning any treatiſe which clofely, ſuccinctly, and accurately handles any particular theme.

life, make a wiſe obſervation what are the ideas, what the diſcourſes and the parts of knowledge that have been more or leſs uſeful to yourſelf or others. In our younger years, while we are furniſhing our minds with a treaſure of ideas, our experience is but ſmall, and our judgment weak; it is therefore impoſſible at that age to determinate aright concerning the real advantage and uſefulneſs of many things we learn. But when age and experience have matured your judgment, then you will gradually drop the more uſeleſs part of your younger furniture, and be more ſolicitous to retain that which is more neceſſary for your welfare in this life, or a better. Hereby you will come to make the ſame complaint that almoſt every learned man has done after long experience in ſtudy, and in the ſtudy of human life and religion; alas! how many hours, and days, and months, have I loſt in purſuing ſome parts of learning, and in reading ſome authors, which have turned to no other account, but to inform me, that they were not worth my labour and purſuit! happy the man who has a wiſe tutor to conduct him through all the ſciences in the firſt years of his ſtudy: and who has a prudent friend always at hand to point out to him, from experience, how much of every ſcience is worth his purſuit! and happy the ſtudent that is ſo wiſe as to follow ſuch advice.

Direct. IV. *Learn to acquire a government over your ideas and your thoughts, that they may come when they are called, and depart when they are bidden.* There are ſome thoughts that riſe and intrude upon us while we ſhun them; there are others that fly from us; when we would hold and fix them.

If the ideas which you would willingly make the matter of your preſent meditation are ready to fly from you, you muſt be obſtinate in the purſuit of them by an habit of fixed meditation; you muſt keep your ſoul to the work, when it is ready to ſtart at every moment, unleſs you will abandon yourſelf to be a ſlave to every wild imagination. It is a common, but it is an unhappy and a ſhameful thing, that every trifle that comes acroſs the ſenſes or fancy ſhould divert us, that a buzzing fly ſhould teaze our ſpirits, and ſcatter our beſt ideas; but

we muſt learn to be deaf and regardleſs of other things, beſides that which we make the preſent ſubject of our meditation: and in order to help a wandering and fickle humour, it is uſeful to have a book of paper in our hands, which has ſome proper hints of the ſubject that we deſign to purſue. We muſt be reſolute and laborious, and ſometimes conflict with ourſelves if we would be wiſe and learned.

Yet I would not be too ſevere in this rule; it muſt be confeſſed there are ſeaſons when the mind, or rather the brain is overtired or jaded with ſtudy or thinking; or upon ſome other accounts animal nature may be languid or cloudy, and unfit to aſſiſt the ſpirit in meditation; at ſuch ſeaſons (provided that they return not too often) it is better ſometimes to yield to the preſent indiſpoſition; for if nature entirely reſiſt, nothing can be done to the purpoſe, at leaſt in that ſubject or ſcience. Then you may think it proper to give yourſelf up to ſome hours of leiſure and recreation, or uſeful idleneſs; or if not, then turn your thoughts to ſome other alluring ſubject, and pore no longer upon the firſt, till ſome brighter or more favourable moments ariſe. A ſtudent ſhall do more in one hour, when all things concur to invite him to any ſpecial ſtudy, then in four hours, at a dull and improper ſeaſon.

I would alſo give the ſame advice, if ſome vain or worthleſs, or fooliſh idea will crowd itſelf into your thoughts, and if you find that all your labour and wreſtling cannot defend yourſelf from it, then divert the importunity of that which offends you by turning your thoughts to ſome entertaining ſubject, that may amuſe a little and draw you off from the troubleſome and impoſing gueſt; and many a time alſo in ſuch a caſe, when the impertinent and intruding ideas would divert from preſent duty, devotion and prayer have been very ſucceſsful to overcome ſuch obſtinate troublers of the peace and profit of the ſoul.

If the natural genius and temper be too volatile, fickle and wandering, ſuch perſons ought in a more eſpecial manner to apply themſelves to mathematical learning, and to begin their ſtudies with arithmetic and geometry; wherein new truths, continually ariſing

to the mind out of the plaineſt and eaſieſt principles, will allure, the thoughts with incredible pleaſure in the purſuit; this will give the ſtudent ſuch a delightful taſte of reaſoning, as will fix his attention to the ſingle ſubject which he purſues, and by degrees will cure the habitual levity of his ſpirit; but let him not indulge and purſue theſe ſo far, as to neglect the prime ſtudies of his deſigned profeſſion.

CHAP. VI.

SPECIAL RULES TO DIRECT OUR CONCEPTIONS OF THINGS.

A GREAT part of what has been already written is deſigned to lay a foundation for thoſe rules, which may guide and regulate our conceptions of things this is our main buſineſs and deſign in the firſt part of logic. Now if we can but direct our thoughts to a juſt and happy manner in forming our ideas of things, the other operations of the mind will not ſo eaſily be perverted; becauſe moſt of our errors in judgment, and the weakneſs, fallacy and miſtake of our argumentation, proceed from the darkneſs, confuſion, defect, or ſome other irregularity in our conceptions.

The rules to aſſiſt and direct our conceptions are theſe,

1. Conceive of things clearly and diſtinctly in their own natures.
2. Conceive of things completely in all their parts.
3. Conceive of things comprehenſively in all their properties and relations.
4. Conceive of things extenſively in all their kinds.
5. Conceive of things orderly, or in a proper method.

SECT. I.

Of gaining clear and diſtinct Ideas.

THE firſt rule is this, ſeek after a clear and diſtinct conception of things as they are in their own nature, and do not content yourſelves with obſcure and confuſed ideas, where clearer are to be attained.

There are ſome things indeed whereof diſtinct ideas are ſcarce attainable, they ſeem to ſurpaſs the capacity of the underſtanding in our preſent ſtate; ſuch are the notions of eternal, immenſe, infinite whether this infinity be applied to number, as an infinite multitude; to quantity, as infinite length, breadth, to powers and perfections, as ſtrength, wiſdom, or goodneſs infinite, *&c.* Though mathematicians in their way demonſtrate ſeveral things in the doctrine of infinites, yet there are ſtill ſome inſolvable difficulties that attend the ideas of infinity, when it is applied to mind or body; and while it is in reality but an idea ever growing, we cannot have ſo clear and diſtinct a conception of it as to ſecure us from miſtakes in ſome of our reaſonings about it.

There are many other things that belong to the material world, wherein the ſharpeſt philoſophers have not yet arrived at clear and diſtinct ideas, ſuch as the particular ſhape, ſituation, contexture, motion of the ſmall particles of minerals, metals, plants, *&c.* whereby their very natures and eſſences are diſtinguiſhed from each other. Nor have we either ſenſes or inſtrument ſufficiently nice and accurate to find them out. There are other things in the world of ſpirits wherein our ideas are very dark and confuſed, ſuch as their union with animal nature, the way of their action on material beings, and their converſe with each other. And though it is a laudable ambition to ſearch what may be known of theſe matters, yet it is a vaſt hindrance to the enrichment of our underſtandings, if we ſpend too much of our time and pains among infinites and unſearchables, and thoſe things for the inveſtigation whereof we are not furniſhed with proper facul-

ties in the preſent ſtate. It is therefore of great ſervice to the true improvement of the mind, to diſtinguiſh well between *knowables* and *unknowables*.

As far as things are knowable by us, it is of excellent uſe to accuſtom ourſelves to clear and diſtinct ideas. Now among many other occaſions of the darkneſs and miſtakes of our minds, there are theſe two things which moſt remarkably bring confuſion into our ideas.

1. That from our infancy we have had the ideas of things ſo far connected with the ideas of words, that we often miſtake words for things, we mingle and confound one with the other.

2. From our youngeſt years we have been ever ready to conſider things not ſo much in their own natures, as in their various reſpects to ourſelves, and chiefly to our ſenſes; and we have alſo joined and mingled the ideas of ſome things, with many other ideas, to which they are not a-kin in their own natures.

In order therefore to a clear and diſtinct knowledge of things, we muſt unclothe them of all theſe relations and mixtures, that we may contemplate them naked, and in their own natures, and diſtinguiſh the ſubject that we have in view from all other ſubjects whatſoever: now to perform this well, we muſt here conſider the definition of words, and the definition of things.

SECT. II.

Of the Definition of Words or Names.

IF we conceive of things as angels and unbodied ſpirits do without involving them in thoſe clouds which words and language throw upon them, we ſhould ſeldom be in danger of ſuch miſtakes as are perpetually committed by us in the preſent ſtate; and indeed it would be of unknown advantage to us to accuſtom

ourſelves to form ideas of things without words, that we might know them in their own proper natures. But ſince we muſt uſe words, both to learn and to communicate moſt of our notions, we ſhould do it with juſt rules of caution I have already declared in part, how often and by what means our words become the occaſions of errors in our conceptions of things. To remedy ſuch inconveniencies, we muſt gĕt exact definition of the words we make uſe of, that is, we muſt determine preciſely the ſenſe of our words, which is called the definition of the name.

Now a definition of the name being only a declaration in what ſenſe the word is uſed, or what idea or object we mean by it, this may be expreſſed by any one or more of the properties, effects or circumſtances of that object which do ſufficiently diſtinguiſh it from other objects: as if I were to tell what I mean by the word air, I may ſay it is that thin matter which we breathe in and breathe out continually; or it is that fluid body in which the birds fly a little above the earth; or it is that inviſible matter which fills all places near the earth, or which immediately encompaſſes the globe of earth and water. So if I would tell what I mean by light, I would ſay it is that medium whereby we ſee the colours and ſhapes of things; or it is that which diſtinguiſhes the day from the night. If I were aſked what I mean by religion, I would anſwer, it is, a collection of all our duties to God, if taken in a ſtrict and limited ſenſe; but if taken in a large ſenſe, it is, a collection of all our duties both to God and man. Theſe are called the definitions of the name.

Note, in defining the name, there is no neceſſity that we ſhould be acquainted with the intimate eſſence or nature of the thing; for any manner of deſcription that will but ſufficiently acquaint another perſon what we mean by ſuch a word, is a ſufficient definition for the name. And on this account, a ſynonymous word, or a mere negation of the contrary, a tranſlation of the word into another tongue, or a grammatical explication of it, is ſometimes ſufficient for this purpoſe; as if one would know what I mean by a ſphere, I tell

him it is a globe, if he aſk what is a triangle, it is that which has three, angles; or an oval is that which has the ſhape of an egg. Dark is that which has no light; aſthma is a difficulty of breathing; a diaphoretic medicine, or a ſudorific, is ſomething that will provoke ſweating; and an inſolvent is a man that cannot pay his debts.

Since it is the deſign of logic, not only to aſſiſt us in learning but in teaching alſo, it is neceſſary that we ſhould be furniſhed with ſome particular directions relating to the definitions of names, both in teaching and learning.

SECT. III.

Directions concerning the Definitions of Names.

Direct I. HAVE a care of making uſe of mere words, inſtead of ideas, that is, ſuch words as have no meaning, no definition belonging to them: do not always imagine that there are ideas whereſoever there are names: for though mankind hath ſo many millions of ideas more than they have names, yet ſo fooliſh and laviſh are we, that too often we uſe ſome words in mere waſte, and have no ideas for them; or at leaſt, our ideas are ſo exceedingly ſhattered and confuſed, broken and blended, various and unſettled, that they can ſignify nothing toward the improvement of the underſtanding. You will find a great deal of reaſon for this remark, if you read the popiſh ſchoolmen, or the myſtic divines.

Never reſt ſatisfied therefore with mere words which have not ideas belonging to them, or at leaſt no ſettled and determinate ideas. Deal not in ſuch empty ware, whether you are a learner or a teacher; for hereby ſome perſons have made themſelves rich in words, and learned in their own eſteem: whereas in reality their underſtandings have been poor, and they knew nothing.

Let me give, for inſtance, ſome of thoſe writers or talkers who deal much in the words *nature*, *fate*, *chance*, *perfection*, *power*, *life*, *fortune*, *inſtinct*, &c. that even in the moſt calm and inſtructive parts of their diſcourſe; though neither they themſelves nor their hearers, have any ſettled meaning under thoſe words, and thus they build up their reaſonings, and infer what they pleaſe, with an ambition of the name of learning, or of ſublime elevations in religion; whereas in truth they do but amuſe themſelves and their admirers with ſwelling words of vanity, underſtanding neither what they ſay, nor whereof they affirm. But this ſort of talk was reproved of old by the two chief apoſtles St Peter and St Paul, 1 Tim. i. 7. and 2 Pet. ii. 18.

When pretenders to philoſophy or good ſenſe grow fond of this ſort of learning, they dazzle and confound their weak hearers, but fall under the neglect of the wiſe. The Epicureans are guilty of this fault, when they aſcribe the formation of this world to chance: the Ariſtotelians, when they ſay, nature abhors a *vacuum*: the Stoics when they talk of fate, which is ſuperior to the gods: and the gameſters when they curſe their ill-luck, or hope for the favours of fortune. Whereas, if they would tell us, that by the word nature they mean the properties of any being, or the order of things eſtabliſhed at the creation; that by the word fate they intend the decrees of God, or the neceſſary connection and influence of ſecond cauſes and effects; if by the word luck or chance they ſignify the abſolute negation of any determinate cauſe, or only their ignorance of any ſuch cauſe, we ſhould know how to converſe with them, and to aſſent to, or diſſent from their opinions. But while they flutter in the dark, and make a noiſe with words which have no fixed ideas, they talk to the wind, and can never profit.

I would make this matter a little plainer ſtill by inſtances borrowed from the Peripatetic philoſophy, which was taught once in all the ſchools. The profeſſor fancies he has aſſigned the true reaſon, why all heavy bodies tend downward, why amber will draw feathers or ſtraws, and the loadſtone draw iron, when he tells you, that this is done by certain gravitating and

attractive qualities, which proceed from the ſubſtantial forms of thoſe various bodies. He imagines that he has explained why the loadſtone's * north pole ſhall repel the north end of a magnetic needle, and attract the ſouth, when he affirms, that this is done by its ſympathy, with one end of it, and its antipathy againſt the other end. Whereas in truth, all theſe names of ſympathy, antipathy, ſubſtantial forms and qualities, when they are put up for the cauſes of theſe effects in bodies, are but hard words, which only expreſs a learned and pompous ignorance of the true cauſe of natural appearances; and in this ſenſe they are mere words without ideas.

This will evidently appear, if one aſk me, why a concave mirror or convex glaſs will burn wood in the ſunbeams, or why a wedge will cleave it? and I ſhould tell him, it is by an uſtorious quality in the mirror or glaſs, and by a cleaving power in the wedge, ariſing from a certain unknown ſubſtantial form in them, whence they derive theſe qualities; or if he ſhould aſk me, why a clock ſtrikes, and points to the hour? and I ſhould ſay, it is by an indicating form and ſonorific quality; whereas I ought to tell him how the ſunbeams are collected and united by a burning glaſs; whence the mechanical force of a wedge is derived; and what are the wheels and ſprings, the pointer and hammer, and bell, whereby a clock gives notice of the time, both to the eye and the ear. But theſe uſtorious and cleaving powers, ſonorous and indicating forms and qualities, do either teach the enquirer nothing at all but what he knew before, or they are mere words without ideas†.

* Note, Some writers call that the ſouth pole of a loadſtone which attracts the ſouth-end of the needle; but I chuſe to follow thoſe who call it the north pole.

† It may be objected here. "And what does the modern philoſopher with all his detail of mathematical numbers, and diagrams, do more than this toward the ſolution of theſe difficulties? does he not deſcribe gravity by a certain unknown force, whereby bodies tend downward to the centre; hath he found the certain and mechanical reaſons of attraction, magnetiſm," &c. I anſwer, that the moderns have found a thouſand things by applying mathematics to natural philoſophy, which the ancients were ignorant of; and when they uſe any names of this kind, viz. gravitation, attraction, &c. they uſe them only to ſignify, that there are ſuch effects and ſuch cauſes, with a

And there is many a man in the vulgar and in the learned world, who imagines himſelf deeply ſkilled in the controverſies of divinity, whereas he has only furniſhed himſelf with a parcel of ſcholaſtic or myſtic words, under ſome of which the authors themſelves, had no juſt ideas; and the learner, when he hears, or pronounces them, hath ſcarce any ideas at all. Such ſort of words ſometimes have become matters of immortal contention, as though the goſpel could not ſtand without them; and yet the zealot perhaps knows little more of them than he does of Shibboleth, or Higgaion, Selah, Judges xii. 6. Pſal. ix. 16.

Yet here I would lay down this caution, that there are ſeveral objects of which we have not a clear and diſtinct idea, much leſs an adequate or comprehenſive one, and yet we cannot call the names of theſe things, words without ideas; ſuch are the infinity and eternity of God himſelf, the union of our own ſoul and body, the union of the divine and human natures in Jeſus Chriſt, the operation of the holy Spirit on the mind of man, *&c.* Theſe ought not to be called words without ideas, for there is ſufficient evidence for the reality and certainty of the exiſtence of their objects; though there is ſome confuſion in our cleareſt conceptions of them; and our ideas of them, though imperfect, are yet ſufficient to converſe about them, ſo far as we have need, and to determine ſo much as is neceſſary for our own faith and practice.

Direct. II. *Do not ſuppoſe that the natures or eſſences of things always differ from one another, as much as their names do.* There are various purpoſes in human life, for which we put very different names on the ſame thing, or on things whoſe natures are near a-kin; and thereby oftentimes, by making a new nominal ſpecies, we are ready to deceive ourſelves with the idea of another real ſpecies of beings: and thoſe, whoſe underſtandings are led away by the mere ſound of words

frequent confeſſion of their ignorance of the true ſprings of them they do not pretend to make theſe words ſtand for the real cauſes things, as though they thereby aſſigned the true philoſophical ſolution of theſe difficulties; for in this ſenſe they will ſtill be words without ideas, whether in the mouth of an old philoſopher or a new on

fancy the nature of thoſe things to be very different whoſe names are ſo, and judge of them accordingly.

I may borrow a remarkable inſtance for my purpoſe almoſt out of every garden, which contains a variety of plants in it. Moſt or all plants agree in this, that they have a root, a ſtalk, leaves, buds, bloſſoms, and ſeeds: but the gardener ranges them under very different names, as though they were really different kinds of beings, merely becauſe of the different uſe and ſervice to which they are applied by men: as for inſtance, thoſe plants whoſe roots are eaten ſhall appropriate the name of roots to themſelves; ſuch are carrots, turnips, radiſhes, *&c.* If the leaves are of chief uſe to us, then we call them herbs; as ſage, mint, thyme: if the leaves are eaten raw, they are termed ſallad; as lettuce, purſlain: if boiled, they become pot-herbs; as ſpinage, coleworts; and ſome of thoſe ſame plants, which are pot-herbs in one family, are ſallad in another. If the buds are made our food, they are called heads, or tops; ſo cabbage-heads, heads of aſparagus and artichoaks. If the bloſſom be of moſt importance, we call it a flower; ſuch are daiſies, tulips, and carnations, which are the mere bloſſoms of thoſe plants. If the huſk or ſeeds are eaten, they are called the fruits of the ground, as peaſe, beans, ſtrawberries, *&c.* If any part of the plant be of known and common uſe to us, in medicine, we call it a phyſical herb, as carduus, ſcurvy-graſs; but if we count no part uſeful, we call it a weed, and throw it out of the garden; and yet perhaps our next neighbour knows ſome valuable property and uſe of it; he plants it in his garden, and gives it the title of an herb, or a flower. You ſee here how ſmall is the real diſtinction of theſe ſeveral plants, conſidered in their general nature as the leſſer vegetables: yet what very different ideas we vulgarly form concerning them, and make different ſpecies of them, chiefly becauſe of the different names given them.

Now when things are ſet in this clear light, it appears how ridiculous it would be for two perſons to contend, whether dandelion be an herb, or a weed; whether it be a pot-herb or ſallad; when by the cuſtom or fancy of different families, this one plant obtains all theſe

names according to the ſeveral uſes of it, and the value that is put upon it.

Note here, that I find no manner of fault with the variety of names which are given to ſeveral plants; according to the various uſes we make of them. But I would not have our judgments impoſed upon hereby, to think that theſe mere nominal ſpecies, *viz.* herbs, ſallad, and weeds, become three really different ſpecies of beings, on this account, that they have different names and uſes. But I proceed to other inſtances.

It has been the cuſtom of mankind, when they have been angry with any thing, to add a new ill name to it, that they may convey thereby a hateful idea of it though the nature of the thing ſtill abides the ſame. So the papiſts call the proteſtants heretics: a prophane perſon calls a man of piety a preciſian: and in the times of the civil war in the laſt century, the royaliſts called the parliamentarians, fanatics, roundheads, and ſectaries. And they in requital called the royaliſts, malignants: but the partizans on each ſide were really neither better nor worſe for theſe names.

It has alſo been a frequent practice on the other hand, to put new favourable names upon ill ideas, on purpoſe to take off the odium of them. But notwithſtanding all theſe flattering names and titles a man of profuſe generoſity is but a ſpendthrift; a natural ſon is a baſtard ſtill; a gallant is an adulterer, and a lady of pleaſure is a whore.

Direct. III. *Take heed of believing the nature and eſſence of two or more things to be certainly the ſame, becauſe they may have the ſame name given them.* This has been an unhappy and fatal occaſion of a thouſand miſtakes in the natural, in the civil, and in the religious affairs of life both amongſt the vulgar and the learned. I ſhall give two or three inſtances chiefly in the matters of natural philoſophy, having hinted ſeveral dangers of this kind relating to theology in the foregoing diſcourſe concerning equivocal words.

Our elder philoſophers have generally made uſe o the word ſoul to ſignify that principle whereby a plan grows, and they called it the vegetative ſoul: the principl of animal motion of a brute has been likewiſe called ſoul, and we have been taught to name it the ſenſitiv

ſoul: they have alſo given the name of ſoul to that ſuperior principle in man, whereby he thinks, judges, reaſons, *&c.* And though they diſtinguiſhed this by the honourable title of the rational ſoul, yet in common diſcourſe and writing we leave out the words vegetative, ſenſitive, and rational; and make the word ſoul ſerve for all theſe principles: thence we are led early into this imagination, that there is a ſort of ſpiritual being in plants, and in brutes, like that in men. Whereas if we did but abſtract and ſeparate theſe things from words, and compare the cauſe of growth in a plant, with the cauſe of reaſoning in man (without the word ſoul) we ſhall never think that theſe two principles were at all like one another; nor ſhould we perhaps ſo eaſily and peremptorily conclude, that brutes need an intelligent mind to perform their animal actions.

Another inſtance may be the word life, which being attributed to plants, to brutes, and to men, and in each of them aſcribed to the ſoul, has very eaſily betrayed us from our infancy into this miſtake, that the ſpirit or mind or thinking principle, in man, is the ſpring of vegetative and animal life to his body: whereas it is evident, that if the ſpirit or thinking principle of man gave life to his animal nature, the way to ſave men from dying would not be to uſe medicines, but to perſuade the ſpirit to abide in the body.

I might derive a third inſtance from the word heat; which is uſed to ſignify the ſenſation we have when we are near the fire, as well as cauſe of that ſenſation which is in the fire itſelf; and thence we conclude from our infancy, that there is a ſort of heat in the fire reſembling our own ſenſation, or the heat which we feel; whereas in the fire there is nothing but little particles of matter of ſuch particular ſhapes, ſizes, ſituations and motions as are fitted to impreſs ſuch motions on our fleſh or nerves as excite the ſenſe of heat. Now if this cauſe of our ſenſation in the fire had been always called by a diſtinct name, perhaps we had not been ſo rooted in this miſtake, that the fire is hot with the ſame ſort of heat that we feel. This will appear with more evidence, when we conſider that we are ſecure from the ſame miſtake when there have been two

different names allotted to our ſenſation, and to the cauſe of it; as, we do not ſay, pain is in the fire that burns us, or in the knife that cuts and wounds us; for we call it burning in the fire, cutting in the knife, and pain only when it is in ourſelves.

Numerous inſtances of this kind might be derived from the words ſweet, ſour, loud, ſhrill, and almoſt all the ſenſible qualities, whoſe real natures we miſtake from our very infancy, and we are ready to ſuppoſe them to be the ſame in us, and in the bodies that cauſe them; partly becauſe the words which ſignify our own ſenſations are applied alſo to ſignify thoſe unknown ſhapes and motions of the little corpuſcles, which excite and cauſe thoſe ſenſations.

Direct. IV. *In converſation or reading be diligent to find out the true ſenſe, or diſtinct idea, which the ſpeaker or writer affixes to his words; and eſpecially to thoſe words which are the chief ſubject of his diſcourſe.* As far as poſſible take heed, leſt you put more or fewer ideas into one word, than the perſon did when he wrote or ſpoke; and endeavour that your ideas of every word may be the ſame as his were; then you will judge better of what he ſpeaks or writes.

It is for want of this that men quarrel in the dark; and that there are ſo many contentions in the ſeveral ſciences, and eſpecially in divinity, multitudes of them ariſe from a miſtake of the true ſenſe or complete meaning, in which words are uſed by the writer or ſpeaker; and hereby ſome times they ſeem to agree, when they really differ in their ſentiments; and ſometimes they ſeem to differ, when they really agree. Let me give an inſtance of both.

When one man by the word church ſhall underſtand all that believe in Chriſt; and another by the word church means only the church of Rome; they may both aſſent to this propoſition, there is no ſalvation out of the church, and yet their inward ſentiments may be widely different.

Again, if one writer ſhall affirm that virtue added to faith is ſufficient to make a chriſtian, and another ſhall as zealouſly deny this propoſition, they ſeem to differ widely in words, and yet perhaps they may both really

agree in ſentiment: if by the word virtue, the affirmer intends our whole duty to God and man; and the denier by the word virtue means only courage, or at moſt our duty towards our neighbour, without including in the idea of it the duty which we owe to God.

Many ſuch ſort of contentions as theſe are, traced to their original, will be found to be mere *logomachines*, or ſtrifes and quarrels about names and words, and vain janglings, as the apoſtle calls them in his firſt letter of advice to Timothy.

In order therefore to attain clear and diſtinct ideas of what we read or hear, we muſt ſearch the ſenſe of words; we muſt conſider what is their original and derivation in our own or foreign languages; what is their common ſenſe amongſt mankind, or in other authors, eſpecially ſuch as wrote in the ſame century, in the ſame age, about the ſame time, and upon the ſame ſubjects: we muſt conſider in what ſenſe the ſame author uſes any particular word or phraſe, and that when he is diſcourſing on the ſame matter, and eſpecially about the ſame parts or paragraphs of his writing: we muſt conſider whether the word be uſed in a ſtrict and limited, or in a large and general ſenſe; whether in a literal, in a figurative, or in a prophetic ſenſe; whether it has any ſecondary idea annexed to it beſides the primary or chief ſenſe. We muſt enquire farther what is the ſcope and deſign of the writer; and what is the connection of that ſentence with thoſe that go before it, and thoſe which follow it. By theſe and other methods we are to ſearch out the definition of names, that is, the true ſenſe and meaning in which any author or ſpeaker uſes any word, which may be the chief ſubject of diſcourſe, or may carry any conſiderable importance in it.

Direct. V. *When we communicate our notions to others, merely with a deſign to inform and improve their knowledge, let us, in the beginning of our diſcourſe, take care to adjuſt the definitions of names whereſoever there is need of it; that is, to determine plainly what we mean by the chief words which are the ſubject of our diſcourſe; and be ſure always to keep the ſame ideas, whenſoever we uſe the ſame words, unleſs we give due notice of the change.* This

will have a very large and happy influence, in ſecuring not only others but ourſelves too from confuſion and miſtake; for even writers and ſpeakers themſelves, for want of due watchfulneſs, are ready to affix different ideas to their own words, in different parts of their diſcourſes, and hereby bring perplexity into their own reaſonings, and confound their hearers

It is by an obſervation of this rule that mathematicians have ſo happily ſecured themſelves and the ſciences which they have profeſſed, from wrangling and controverſy; becauſe whenſoever in the progreſs of their treatiſes they have occaſion to uſe a new and unknown word; they always define it, and tell in what ſenſe they ſhall take it; and in many of their writings you will find a heap of definitions at the very beginning. Now if the writers of natural philoſophy and morality had uſed the ſame accuracy and care, they had effectually ſecluded a multitude of noiſy and fruitleſs debates out of their ſeveral provinces: nor had that ſacred theme of divinity been perplexed with ſo many intricate diſputes, nor the church of Chriſt been torn to pieces, by ſo many ſects and factions, if the words *grace, faith, righteouſneſs, repentance, juſtification, worſhip, church, biſhop, preſbyter*, &c. had been well defined, and their ſignifications adjuſted, as near as poſſible, by the uſe of thoſe words in the New Teſtament; or at leaſt, if every writer had told us at firſt in what ſenſe he would uſe thoſe words.

Direct. VI. *In your own ſtudies, as well as in the communication of your thoughts to others, merely for their information, avoid ambiguous and equivocal terms as much as poſſible.* Do not uſe ſuch words as have two or three definitions of the name belonging to them, that is, ſuch words as have two or three ſenſes, where there is any danger of miſtake. Where your chief buſineſs is to inform the judgment, and to explain a matter, rather than to perſuade or affect, be not fond of expreſsing yourſelves in figurative language, when there ar any proper words that ſignify the ſame idea in thei literal ſenſe. It is the ambiguity of names, as we hav often ſaid, that brings almoſt infinite confuſion in our conceptions of things.

But where there is a neceſſity of uſing an ambiguous word, there let double care be uſed in defining that word, and declaring in what ſenſe you take it. And be ſure to ſuffer no ambiguous word ever to come into your definitions.

Direct. VII. *In communicating your notions, uſe every word as near as poſſible in the ſame ſenſe in which mankind commonly uſes it; or which writers that have gone before you have uſually affixed to it, upon condition that it is free from ambiguity.* Though names are in their original merely arbitrary, yet we ſhould always keep to the eſtabliſhed meaning of them, unleſs great neceſſity require the alteration; for when any word has been uſed to ſignify an idea, that old idea will recur in the mind, when the word is heard or read, rather than any new idea which we may faſten to it. And this is one reaſon why the received definition of names ſhould be changed as little as poſſible.

But I add farther, that though a word entirely new, introduced into a language, may be affixed to what idea you pleaſe, yet an old word ought never to be fixed to an unaccuſtomed idea, without juſt and evident neceſſity, or without preſent or previous notice, leaſt we introduce thereby a licence for all manner of pernicious equivocations and falſehoods; as for inſtance, when an idle boy, who has not ſeen his book all the morning, ſhall tell his maſter that he has learned his leſſon, he can never excuſe himſelf by ſaying; that by the word learning he meant his breakfaſt, and by the word leſſon he meant eating; ſurely this would be conſtrued a downright lie, and his fancied wit would hardly procure his pardon.

In uſing any ambiguous word, which has been uſed in different ſenſes, we may chooſe what we think the moſt proper ſenſe, as I have done, p. 75. in naming the poles of the loadſtone, north or ſouth.

And when a word has been uſed in two or three ſenſes, and has made a great inroad for error upon that account, it is of good ſervice to drop one or two of thoſe ſenſes, and leave it only one remaining, and affix the other ſenſes or ideas to other words. So the modern philoſophers, when they they treat of the human

ſoul, they call it the mind or *mens humana*, and leave the word *anima* or ſoul to ſignify the principle of life and motion in mere animal beings.

The poet Juvenal has long ago given us a hint to this accuracy and diſtinction, when he ſays of brutes and men,

Indulſit mundi communis conditor illis
Tantum animas; nobis animum quoque.
Sat. xvi. v. 134.

Exception. There is one caſe, wherein ſome of theſe laſt rules concerning the definition of words, may be in ſome meaſure diſpenſed with; and that is, when ſtrong and rooted prejudice hath eſtabliſhed ſome favourite word or phraſe, and long uſed it to expreſs ſome miſtaken notion, or to unite ſome inconſiſtent ideas; for then it is ſometimes much eaſier to lead the world into truth by indulging their fondneſs for a phraſe, and by aſſigning and applying new ideas and notions to their favourite word; and this is much ſafer alſo than to awaken all their paſſions by rejecting both their old words, and phraſes and notions, and introducing all new at once: therefore we continue to ſay, there is heat in the fire, there is coldneſs in ice, rather than invent new words to expreſs the powers which are in fire or ice, to excite the ſenſations of heat or cold in us. For the ſame reaſon ſome words and phraſes which are leſs proper, may be continued in theology, while people are led into clearer ideas with much more eaſe and ſucceſs, than if an attempt were made to change all their beloved forms of ſpeech.

In other caſes theſe logical directions ſhould generally be obſerved, and different names affixed to different ideas.

Here I cannot but take occaſion to remark, that it is a conſiderable advantage to any language to have a variety of new words introduced into it, that when in courſe of time new objects and new ideas ariſe, there may be new words and names aſſigned to them: and alſo where one ſingle name has ſuſtained two or three ideas in time paſt, theſe new words may remove the

ambiguity by being affixed to ſome of thoſe ideas. This practice would by degrees take away part of the uncertainty of language. And for this reaſon I cannot but congratulate our Engliſh tongue, that it has been abundantly enriched with the tranſlation of words from all our neighbour nations, as well as from ancient languages, and theſe words have been as it were enfranchiſed amongſt us; for French, Latin, Greek, and German names will ſignify Engliſh ideas, as well as words that are anciently and entirely Engliſh.

It may not be amiſs to mention in this place, that as the determination of the particular ſenſe in which any word is uſed, is called the definition of the name, ſo the enumeration of the various ſenſes of an equivocal word, is ſometimes called the diviſion or diſtinction of the name; and for this purpoſe good dictionaries are of excellent uſe.

This diſtinction of the name or word is greatly neceſſary in argumentation or diſpute; when a fallacious argument is uſed, he that anſwers it diſtinguiſhes the ſeveral ſenſes of ſome word or phraſe in it, and ſhews in what ſenſe it is true, and in what ſenſe it is as evidently falſe.

SECT. IV.

Of the Definition of Things.

AS there is much confuſion introduced into our ideas, by the means of thoſe words to which they are affixed, ſo the mingling our ideas with each other without caution is a farther occaſion whereby they become confuſed. A court lady, born and bred up amongſt pomp and equipage, and the vain notions of birth and quality, conſtantly joins and mixes all theſe with the idea of herſelf, and ſhe imagines theſe to be eſſential to her nature, and as it were neceſſary to her being; thence ſhe is tempted to look upon menial ſervants, and the loweſt rank of mankind, as ano-

ther ſpecies of beings quite diſtinct from herſelf. A plough-boy, that has never travelled beyond his own village, and has ſeen nothing but thatched houſes and his pariſh-church, is naturally led to imagine that thatch belongs to the very nature of a houſe, and that muſt be a church which is built of ſtone, and eſpecially if it has a ſpire upon it. A child whoſe uncle has been exceſſive fond, and his ſchoolmaſter very ſevere, eaſily believes, that fondneſs always belongs to uncles, and that ſeverity is eſſential to maſters or inſtructors. He has ſeen alſo ſoldiers with red coats, or miniſters with long black gowns, and therefore he perſuades himſelf that theſe garbs are eſſential to the characters, and that he is not a miniſter who has not a long black gown, nor can he be a ſoldier who is not dreſſed in red. It would be well if all ſuch miſtakes ended with childhood.

It might be alſo ſubjoined, that our complex ideas become confuſed, not only by uniting or blending together more ſimple or ſingle ideas, than really belong to them, as in the inſtances juſt mentioned; but obſcurity and confuſion ſometimes come upon our ideas alſo, for want of uniting a ſufficient number of ſingle ideas to make the complex one: ſo if I conceive of a leopard only as a ſpotted beaſt, this does not diſtinguiſh it from a tyger or a lynx, nor from many dogs or horſes, which are ſpotted too; and therefore a leopard muſt have ſome more ideas added to complete and diſtinguiſh it.

I grant that it is a large and free acquaintance with the world, a watchful obſervation and diligent ſearch into the nature of things that muſt fully correct this kind of errors: the rules of logic are not ſufficient to do it: but yet the rules of logic may inſtruct us by what means to diſtinguiſh one thing from another, and how to ſearch and mark out as far as may be, the contents and limits of the nature of diſtinct beings, and thus may give us great aſſiſtance towards the remedy of theſe miſtakes.

As the definition of names frees us from that confuſion which words introduce, ſo the definition of things will, in ſome meaſure, guard us againſt that confuſion

which mingled ideas have introduced: for as a definition of the name explains what any words means, ſo a definition of the thing explains what is the nature of that thing.

In order to form a definition of any thing we muſt put forth theſe three acts of the mind.

Firſt, compare the thing to be defined with other things that are moſt like to itſelf, and ſee wherein its eſſence or nature agrees with them; and this is called the general nature or genus in a definition: ſo if you would define what wine is, firſt compare it with other things, like itſelf, as cyder, perry, *&c.* and you will find it agrees eſſentially with them in this, that it is a ſort of juice.

Secondly, conſider the moſt remarkable and primary attribute, property, or idea wherein this thing differs from thoſe other things that are moſt like it; and that is its eſſential or ſpecific difference: ſo wine differs from cyder and perry, and all other juices, in that it is preſſed from a grape. This may be called its ſpecial nature, which diſtinguiſhes it from other juices.

Thirdly, join the general and ſpecial nature together, or (which is all one) the genus and the difference, and theſe make up a definition. So the juice of a grape, or juice preſſed from grapes, is the definition of wine.

So if I would define what winter is, I conſider firſt wherein it agrees with other things which are moſt like it, (viz.) ſummer, ſpring, autumn, and I find they are all ſeaſons of the year; therefore a ſeaſon of the year is the genus. Then I obſerve wherein it differs from theſe, and that is in the ſhortneſs of the days; for it is this which does primarily diſtinguiſh it from other ſeaſons; therefore this may be called its ſpecial nature of its difference. Then by joining theſe together I make a definition. Winter is that ſeaſon of the year wherein the days are ſhorteſt. I confeſs indeed this is but a ruder definition of it; for to define it, as an accurate aſtronomer, I muſt limit the days, hours and minutes.

After the ſame manner if we would explain or define what the picture of a man is, we conſider firſt the genus or general nature of it, which is a repreſentation; and

herein it agrees with many other things, as a ſtatue, a ſhadow, a print, a verbal deſcription of a man, &c. Then we conſider wherein it differs from theſe, and we find it differs from a verbal deſcription in that it is a repreſentation to the eye and not to the ear; it differs from a ſtatue in that it is a repreſentation upon a flat ſurface, and not in a ſolid figure; it differs from a ſhadow, in that it is an abiding repreſentation and not a fleeting one: it differs from a print or draught, becauſe it repreſents the colours by paint as well as the ſhape of the object by delineation. Now ſo many or rather ſo few of theſe ideas put together, as are juſt ſufficient to diſtinguiſh a picture from all other repreſentations, make up its eſſential difference or its ſpecial nature; and all theſe are included in its being painted on a plain ſurface. Then join this to the genus, which is a repreſentation; and thus you have the complete definition of the picture of a man, (viz.) it is the repreſentation of a man in paint upon a ſurface (or a plane.)

Here it muſt be obſerved, that when we ſpeak of the genus and difference as compoſing a definition, it muſt always be underſtood that the neareſt genus and ſpecific difference are required.

The next general nature or the neareſt genus muſt be uſed in a definition, becauſe it includes all the reſt; and if I would define wine, I muſt ſay wine is a juice, which is the neareſt genus; and not ſay, wine is a liquid, which is a remote general nature; or wine is a ſubſtance, which is yet more remote, for juice includes both ſubſtance and liquid. Beſides, neither of theſe two remote general natures would make any diſtinction between wine and a thouſand other ſubſtances or other liquids, a remote genus leaves the thing too much undiſtinguiſhed.

The ſpecific difference is that primary attribute which diſtinguiſhes each ſpecies from one another, while they ſtood ranked under the ſame general nature or genus. Though wine differs from other liquids in that it is the juice of a certain fruit, yet this is but a general or generic difference, for it does not diſtinguiſh wine from cyder or perry; the ſpecific difference of wine

therefore is its preſſure from the grape; as cyder is preſſed from apples and perry from pears.

In definitions alſo we muſt uſe the primary attribute that diſtinguiſhes the ſpecies or ſpecial nature, and not attempt to define wine by its particular taſtes, or effects, or other properties, which are but ſecondary or conſequential, when its preſſure from the grape is the moſt obvious and primary diſtinction of it from all other juices. I confeſs in ſome caſes it is not ſo eaſily known which is the primary idea that diſtinguiſhes one thing from another; and therefore ſome would as ſoon define winter by the coldneſs of the ſeaſon, as by the ſhortneſs of the days; though the ſhortneſs of the days is doubtleſs the moſt juſt, primary and philoſophical difference betwixt that and the other ſeaſons of the year, ſince winter days are always ſhorteſt, but not always the coldeſt; I add alſo that the ſhortneſs of the days is one cauſe of the coldneſs, but the cold is no cauſe of their ſhortneſs.

SECT. V.

Rules of the Definition of the Things.

THE ſpecial rules of a good definition, are theſe:

Rule I. A definition muſt be univerſal, or as ſome call it adequate; that is, it muſt agree to all the particular ſpecies or individuals that are included under the ſame idea; ſo the juice of a grape agrees to all proper wines, whether red, white, France, Spaniſh, Florence, &c.

Rule II. *It muſt be proper and peculiar to the thing defined, and agree to that alone;* for it is the very deſign of a definition effectually to diſtinguiſh one thing from all others: ſo the juice of a grape agrees to no other ſubſtance, to no other liquid, to no other being but wine.

Theſe two rules being obſerved, will always render a

definition reciprocal with the thing defined; which is a ſcholaſtic way of ſpeaking, to ſignify that the definition may be uſed in any ſentence in the place of the thing defined, or they may be mutually affirmed concerning each other, or ſubſtituted in the room of each other. The juice of the grape is wine, or wine is the juice of the grape. And whereſoever the word wine is uſed, you may put the juice of the grape inſtead of it, except when you conſider wine rather as a word than a thing, or when it is mentioned in ſuch logical rules.

Rule III. *A definition ought to be clear and plain;* for the deſign of it is to lead us into the knowledge of the thing defined.

Hence it will follow, that the words uſed in definition ought not to be doubtful, and equivocal, and obſcure, but as plain and eaſy as the language will afford; and indeed it is a general rule concerning the definition both of names and things, that no word ſhould be uſed in either of them, which has any darkneſs or difficulty in it, unleſs it has been before explained or defined.

Hence it will follow alſo that there are many things which cannot well be defined either as to the name of the thing, unleſs it be by ſynonymous words, or by a negation of the contrary idea, *&c.* for learned men know not how to make them more evident or more intelligible than the ideas which every man has gained by the vulgar methods of teaching. Such are the ideas of extenſion, duration, thought, conſciouſneſs, and moſt of our ſimple ideas, and particularly ſenſible qualities, as *white, blue, red, cold, heat, ſweet, bitter, ſour, &c.*

We can ſay of duration that it is a continuance in being, or a not ceaſing to be; we can ſay of conſciouſneſs, that it is as it were a feeling within ourſelves; we may ſay, heat is that which is not cold; or ſour is that which is like vinegar; or we may point to the clear ſky, and ſay that is blue. Theſe are the vulgar methods of teaching the definitions of names, or meaning of words. But there are ſome philoſophers, whoſe attempts to define theſe things learnedly, have wrapt up their ideas in greater darkneſs, and expoſed themſelves to ridicule and contempt: as when they define heat, they

ſay, it is *qualitas congregans homogenea & ſegregans heterogenea*, that is, a quality gathering together things of the ſame kind, and ſeparating things of a different kind. So they define white, a colour ariſing from the prevalence of brightneſs: but every child knows hot and white better without theſe definitions.

There are many other definitions given by the peripatetic philoſophers, which are very faulty by reaſon of their obſcurity; as motion is defined by them the act of a being in power, ſo far forth as it is in power. Time is the meaſure or number of motion according to paſt, preſent and future. The ſoul is the act of an organical natural body, having life in power; and ſeveral others of the ſame ſtamp.

Rule IV. It is alſo commonly preſcribed among the rules of definition, *that it ſhould be ſhort*, ſo that it *muſt have no tautology in it, nor any words ſuperfluous*. I confeſs definitions ought to be expreſſed in as few words as is conſiſtent with a clear and juſt explication of the nature of the thing defined, and a diſtinction of it from all other things beſide; but it is of much more importance, and far better, that a definition ſhould explain clearly the ſubject we treat of, though the words be many, than to leave obſcurities in the ſentence, by confining it within too narrow limits. So in the definition which we have given of logic, that it is the art of uſing reaſon well in the ſearch after truth, and the communication of it to others, it has indeed many words in it, but it could not well be ſhorter. Art is the genus wherein it agrees with *rhetoric, poeſy, arithmetic, wreſtling, ſailing, building, &c.* for all theſe are arts alſo: but the difference or ſpecial nature of it is drawn from its object, reaſon; from the act uſing it well, and from its two great ends or deſigns, viz. the ſearch of truth, and the communication of it, nor can it be juſtly deſcribed and explained in fewer ideas.

V. If we add a fifth rule, it muſt be, that neither the thing defined, nor a mere ſynonymous name, ſhould make any part of the definition, for this would be no explication of the nature of the thing; and a ſynonymous word at beſt could only be a definition of the name.

SECT. VI.

Obſervations concerning the Definition of Things.

BEFORE I part with this ſubject, I muſt propoſe ſeveral obſervations which relate to the definitions of things.

1*ſt Obſerv.* There is no need that in definitions we ſhould be confined to one ſingle attribute or property, in order to expreſs the difference of the thing defined, or ſometimes the eſſential difference conſiſts in two or three ideas or attributes. So a grocer is a man who buys and ſells ſugar and plumbs and ſpices for gain. A clock is an engine with weights and wheels, that ſhews the hour of the day both by pointing and ſtriking: and if I were to define a repeating clock, I muſt add another property, *viz.* that it alſo repeats the hour. So that the true and primary eſſential difference of ſome complex ideas conſiſting in ſeveral diſtinct properties, cannot be well expreſſed without conjunctive particles of ſpeech.

2*d Obſerv.* There is no need that definitions ſhould always be poſitive, for ſome things differ from others merely by a defect of what others have; as if a chair be defined a ſeat for a ſingle perſon with a back belonging to it, then a ſtool is a ſeat for a ſingle perſon without a back; and a form is a ſeat for ſeveral perſons, without a back: theſe are negative differences. So ſin is a want of conformity to the law of God; blindneſs is a want of ſight; a vagabond is a perſon without a home. Some ideas are negative, and their definitions ought to be ſo too.

3*d Obſerv.* Some things may have two or more definitions, and each of them equally juſt and good; as a mile is the length of eight furlongs, or it is the third part of a league. Eternal is that which ever was and ever ſhall be; or it is, that which had no beginning and ſhall have no end.* Man is uſual defined a ra-

* The common definition of man, viz. a rational animal, is very faulty. 1. Becauſe the animal is not rational; the rationality of man ariſes from the mind to which the animal is united. 2. Becauſe if a

tional animal: but it may be much better to define him a ſpirit united to an animal of ſuch a ſhape, or an animal of ſuch a peculiar ſhape united to a ſpirit, or a being compoſed of ſuch an animal and a mind.

4th Obſerv. Where the eſſences of things are evident, and clearly diſtinct from each other, there we may be more exact and accurate in the definitions of them; but where their eſſences approach near to each other, the definition is more difficult. A bird may be defined a feathered animal with wings, a ſhip may be defined a large hollow building made to paſs over the ſea with ſails: but if you aſk me to define a batt which is between a bird and a beaſt, or to define a barge and hoy, which are between a boat and a ſhip, it is much harder to define them, or to adjuſt the bounds of their eſſence. This is very evident in all monſtrous births and irregular productions of nature, as well as in many works of art, which partake ſo much of one ſpecies and ſo much of another, that we cannot tell under which ſpecies to rank them, or how to determine their ſpecific difference.

The ſeveral ſpecies of beings are ſeldom precifely limited in the nature of things by any certain and unalterable bounds: the eſſences of many things do not conſiſt in *indiviſibili*, or in one evident indiviſible point, as ſome have imagined; but by various degrees they approach nearer to, or differ more from others that are of a kindred nature. So (as I have hinted before) in the very middle of each of the arches of a rainbow the colours of green, yellow, and red are ſufficiently diſtinguiſhed; but near the borders of the ſeveral arches they run into one another, ſo that you hardly know how to limit the colours, nor whether to call it red or yellow, green or blue.

5th Obſerv. As the higheſt or chief genus' *viz.* being and not-being can never be defined, becauſe there is no genus ſuperior to them; ſo neither can ſingular

ſpirit ſhould be united to a horſe and make it a rational being, ſurely this would not be a man; it is evident therefore that the peculiar ſhape muſt enter into the definition of a man to render it juſt and perfect: for want of a full deſcription thereof all our definitions are defective.

ideas or individuals be well defined, becauſe either they have no eſſential differences from other individuals, or their differences, are not known; and therefore individuals are only to be deſcribed by their particular circumſtances: ſo King George is diſtinguiſhed from all other men and other kings, by deſcribing him as the firſt King of Great Britain of the houſe of Brunſwick; and Weſtminſter Hall is deſcribed by its ſituation and its uſe, *&c.*

That individual bodies can hardly have any eſſential difference, at leaſt within the reach of our knowledge, may be made thus to appear; Methuſelah, when he was nine hundred and ſixty years old, and perhaps worn out with age and weakneſs, was the ſame perſon as when he was in his full vigour of manhood, or when he was an infant newly born; but how far was his body the ſame? who can tell whether there was any fibre of his fleſh or his bones that continued the ſame throughout his whole life? or who can determine which were thoſe fibres? the ſhip in which Sir Frances Drake ſailed round the world might be new built and refitted ſo often, that few of the ſame timbers remained; and who can ſay whether it muſt be called the ſame ſhip or no? and what is its eſſential difference? how ſhall we define Sir Frances Drake's ſhip, or make a definition for Methuſelah?

To this head belongs that moſt difficult queſtion, what is the principle of individuation? or what is it that makes any one thing the ſame as it was ſometime before? this is too large and laborious an inquiry to dwell upon it in this place: yet I cannot forbear to mention this hint, *viz.* Since our own bodies muſt riſe at the laſt day for us to receive rewards or puniſhments in them, there may be perhaps ſome original fibres of each human body, ſome *ſtamina vitæ*, or primeval ſeed of life, which may remain unchanged through all the ſtages of life, death, and the grave; theſe may become the ſprings and principles of a reſurrection, and ſufficient to denominate it in the ſame body. But if there be any ſuch conſtant and vital atoms which diſtinguiſh every human body, they are known to God only.

6th Obſerv. Where we cannot find out the eſſence or eſſential difference of any ſpecies or kinds of beings that we would define, we muſt content ourſelves with a collection of ſuch chief parts or properties of it, as may beſt explain it ſo far as it is known, and beſt diſtinguiſh it from other things: ſo a marigold is a flower which hath many long yellow leaves, round a little knot of ſeeds in the midſt, with ſuch a peculiar ſtalk, *&c.* So if we would define ſilver, we ſay it is a white and hard metal, next in weight to gold: if we would define an elder-tree, we might ſay it is one among the leſſer trees, whoſe younger branches are ſoft and full of pith, whoſe leaves are jagged or indented, and of ſuch a particular ſhape, and it bears large cluſters of ſmall black berries: ſo we muſt define water, earth, ſtone, a lion, an eagle, a ſerpent, and the greateſt part of natural beings, by a collection of theſe properties, which according to our obſervation diſtinguiſh them from all other things. This is what Mr Locke calls nominal eſſences, and nominal definitions. And indeed ſince the eſſential differences of the various natural beings or bodies round about us ariſe from a peculiar ſhape, ſize, motion, and ſituation of the ſmall particles of which they are compoſed, and ſince we have no ſufficient method to inform us what theſe are, we muſt be contented with ſuch a ſort of definition of the bodies they compoſe.

Here note, that this ſort of definition, which is made up of a mere collection of the moſt remarkable parts or properties, is called an imperfect definition or a deſcription; whereas the definition is called perfect, when it is compoſed of the eſſential difference, added to the general nature or genus.

7th Obſerv. The perfect definition, of any being always includes the definition of the name whereby it is called, for it informs us of the ſenſe or meaning of that word, and ſhews us what idea that word is affixed to: but the definition of the names does by no means include a perfect definition of the thing; for as we have ſaid before, a mere ſynonymous word a negation of the contrary, or the mention of any one or two diſtinguiſhing properties of the thing may be a ſufficient

definition of the name. Yet in thoſe caſes where the eſſential difference or eſſence of a thing is unknown, there a definition of the name by the chief properties, and a deſcription of the thing are much the ſame.

And here I think it neceſſary to take notice of one general ſentiment, that ſeems, to run through that excellent performance, Mr Locke's eſſay of human underſtanding, and that is, "That the eſſences of things are utterly unknown to us, and therefore all our pretences to diſtinguiſh the eſſences of things can reach no farther than mere nominal eſſences; or a collection of ſuch properties as we know; to ſome of which we affix particular names, and others we bundle up, ſeveral together, under one name: and that all our attempts to rank beings into different kinds of ſpecies can reach no farther than to make mere nominal ſpecies: and therefore our definitions of things are but mere nominal deſcriptions or definitions of the name."

Now, that we may do juſtice to this great author, we ought to conſider that he confines this ſort of diſcourſe only to the eſſence of ſimple ideas, and to the eſſence of ſubſtances, as appears evident in the fourth and ſixth chapters of his third book; for he allows the names of mixed modes always to ſignify the real eſſences of their ſpecies, chap. V. and he acknowledges artificial things to have real diſtinct ſpecies: and that in the diſtinction of their eſſences, there is generally leſs confuſion and uncertainty than in natural, chap. VI. Sect. 40, 41. though it muſt be confeſſed that he ſcarce makes any diſtinction between the definition of the name, and the definition of the thing, as chap. IV. and ſometimes the current of his diſcourſe decries the knowledge of eſſences in ſuch general terms, as may juſtly give occaſion to miſtake.

It muſt be granted, that the eſſence of moſt of our ſimple ideas, and the greateſt part of particular natural ſubſtances are much unknown to us; and therefore the eſſential difference of ſenſible qualities, and of the various kinds of bodies (as I have ſaid before) lie beyond the reach of our underſtandings: we know not what makes the primary real inward diſtinctions between red, green, ſweet, ſour, &c. between wood, iron, oil,

:one, fire, water, fleſh, clay, in their general natures, or do we know what are the inward and prime di-inctions between all the particular kinds or ſpecies in ıe vegetable, animal, mineral, metallic, or liquid world f things. See Philoſoph. eſſays. eſſ. xi. ſect. 1.

But ſtill there is a very large field for the knowledge f the eſſences of things, and for the uſe of perfect de-nitions amongſt our complex ideas, the modal appear-nces and changes of nature, the works of art, the mat-ers of ſcience, and all the affairs of the civil, the moral nd the religious life; and indeed it is of much more nportance to all mankind to have a better acquaintance vith the works of art for their own livelihood and aily uſe, with the affairs of morality for their behaviour ı this world, and with the matters of religion, that hey may be prepared for the world to come, than to e able to give a perfect definition of the works of ature.

If the particular eſſences of natural bodies are un-nown to us, we may yet be good philoſophers, good rtiſts, good neighbours, good ſubjects, and good chriſ-ians without that knowledge, and we have juſt reaſon o be content.

Now that the eſſences of ſome of the modal appear-nces and changes in nature, as well as things of art, cience and morality are ſufficiently known to us to nake perfect definitions of them, will appear by the pecimen of a few definitions of theſe things.

Motion is a change of place. Swiftneſs is the paſſing ver a long ſpace in a ſhort time. A natural day is the ime of one alternate revolution of light and darkneſs, r it is the duration of twenty-four hours. An eclipſe f the ſun is a defect in the ſun's tranſmiſſion of ight to us by the moon interpoſing. * Snow is con-ealed vapour. * Hail is congealed rain. An * iſland s a piece of land riſing above the ſurrounding water. An * hill is an elevated part of the earth, and a * grove

* Note, Iſland, hill, grove, are not deſigned here in their more emote and ſubſtantial natures (if I may ſo expreſs it) or as the matter f them is earth; for in this ſenſe we know not their eſſence, but nly as conſidered in their modal appearances, whereby one part of

is a piece of ground thick ſet with trees. An houſe is a building made to dwell in. A cottage is a mean houſe in the country. A ſupper is that meal which we make in the evening. A triangle is a figure compoſed of three ſides. A gallon is a meaſure containing eight pints. A porter is a man who carries burdens for hire. A king is the chief ruler in a kingdom. Veracity is the conformity of our words to our thoughts. Covetouſneſs is an exceſſive love of money, or other poſſeſſions. Killing is the taking away the life of an animal. Murder is the unlawful killing of a man. Rhetoric is the art of ſpeaking in a manner fit to perſuade. Natural philoſophy is the knowledge of the properties of bodies and the various effects of them, or it is the knowledge of the various appearances in nature, and their cauſes; and logic is the art of uſing our reaſon well, *&c.*

Thus you ſee the eſſential differences of various beings may be known, and are borrowed from their qualities and properties, their cauſes, effects, objects, adjunct, ends, *&c.* and indeed as infinitely various as the eſſences of things are, their definitions muſt needs have very various forms.

After all it muſt be confeſſed, that many logicians and philoſophers in the former ages, have made too great a buſtle about the exactneſs of their definitions of things, and entered into long fruitleſs controverſies and very ridiculous debates in the ſeveral ſciences about adjuſting the logical formalities of every definition: whereas that ſort of wrangling is now grown very juſtly contemptible, ſince it is agreed that true learning and the knowledge of things depends much more upon a large acquaintance with their various properties, cauſes, effects, ſubject, object, ends and deſigns, than it does upon the formal and ſcholaſtic niceties of genus and difference.

earth is diſtinguiſhed from another. The ſame may be ſaid of ſnow, hail, &c.

SECT. VII.

Of a complete Conception of Things.

HAVING dwelt ſo long upon the firſt rule to direct our conceptions, and given an account of the definition both of names and things in order to gain clear and diſtinct ideas, we make haſte now to the ſecond rule to guide your conceptions, and that is, conceive of things completely in all their parts.

All parts have a reference to ſome whole: now there is an old diſtinction which logical writers make of a whole and its parts into four ſeveral kinds, and it may be proper juſt to mention them here.

1. There is a metaphyſical whole, when the eſſence of a thing is ſaid to conſiſt of two parts, the genus and the difference, that is, the general and the ſpecial nature, which being joined together make up a definition. This has been the ſubject of the foregoing ſections.

2. There is a mathematical whole which is better called integral, when the ſeveral parts, which go to make up the whole, are really diſtinct from one another, and each of them may ſubſiſt apart. So the head, the limbs and the trunk are the integral parts of an animal body; ſo units are the integral parts of any large number; ſo theſe diſcourſes which I have written concerning perception, judgment, reaſoning and diſpoſition are the four integral parts of logic. This ſort of parts goes to make up the completeneſs of any ſubject, and this is the chief and moſt direct matter of our diſcourſe in this ſection

3. There is a phyſical or eſſential whole, which is uſually made to ſignify and include only the two eſſential parts of man, body and ſoul: but I think the ſenſe of it may be better altered, or at leaſt enlarged, and ſo include all the eſſential modes, attributes or properties which are contained in the comprehenſion of any idea. This ſhall be the ſubject of diſcourſe under the third rule to direct our conceptions.

4. There is a logical whole, which is alſo called an univerſal; and the parts of it are all the particular ideas to which this univerſal nature extends. So a genus is a whole in reſpect of the ſeveral ſpecies which are its parts. So the ſpecies is a whole, and all the individuals are the parts of it. This ſhall be treated of in the fourth rule to guide our conceptions.

At preſent we conſider an idea as an integral whole, and our ſecond rule directs us to contemplate it in all its parts; but this can only refer to complex ideas, for ſimple ideas have no parts.

SECT. VIII.

Of Definition, and the Rules of it.

SINCE our minds are narrow in their capacities, and cannot ſurvey the ſeveral parts of any complex being with one ſingle view, as God ſees all things at once; therefore we muſt as it were take it to pieces, and conſider of the parts ſeparately, that we may have a more complete conception of the whole. So if I would learn the nature of a watch, the workman takes it to pieces and ſhews me the ſpring, the wheels, the axles, the pinions, the balance, the dial-plate, the pointer, the caſe, *&c.* and deſcribes each of theſe things to me apart, together with their figures and their uſes. If I would know what an animal is, the anatomiſt conſiders the head, the trunk, the limbs, the bowels, apart from each other, and gives me diſtinct lectures upon each of them. So a kingdom is divided into its ſeveral provinces; a book into its ſeveral chapters; and any ſcience is divided according to the ſeveral ſubjects of which it treats.

This is what we properly call the diviſion of an idea, which is an explication of the whole by its ſeveral parts, or an enumeration of its ſeveral parts, that go to compoſe any whole idea, and to render it complete.

And I think when man is divided into body and ſoul, it properly comes under this part of the doctrine of integral diviſion, as well as when the mere body is divided into head, trunk, and limbs: this diviſion is ſometimes called partition.

When any of the parts of any idea are yet farther divided in order to a clear explication of the whole, this is called a ſubdiviſion; as when a year is divided into months, each month into days, and each day into hours, which may alſo be farther ſubdivided into minutes and ſeconds.

It is neceſſary in order to the full explication of any being, to conſider each part, and the properties of it, diſtinct by itſelf, as well as in its relation to the whole: for there are many properties that belong to the ſeveral parts of a being, which cannot properly be aſcribed to the whole, though theſe properties may fit each part for its proper ſtation, and as it ſtands in that relation to the whole complex being: as in a houſe, the doors are moveable, the rooms ſquare, the cielings white, the windows tranſparent, yet the houſe is neither moveable, nor ſquare, nor white, nor tranſparent.

The ſpecial rules of a good diviſion are theſe.

I. Rule. *Each part ſingly taken muſt contain leſs than the whole, but all the parts taken collectively* (or together) *muſt contain neither more nor leſs than the whole.* Therefore in diſcourſing of a tree you divide it into the trunk and leaves, it is an imperfect diviſion, becauſe the root and the branches are needful to make up the whole. So logic would be ill divided into apprehenſion, judgment, and reaſoning; for method is a conſiderable part of the art which teaches us to uſe our reaſon right, and ſhould by no means be omitted.

Upon this account, in every diviſion wherein we deſign a perfect exactneſs, it is neceſſary to examine the whole idea with diligence, leſt we omit any part of it through want of care; though in ſome caſes it is not poſſible, and in others it is not neceſſary, that we ſhould deſcend to the minuteſt parts.

II. Rule. *In all diviſions we ſhould firſt conſider the larger and more immediate parts of the ſubject, and not di-*

vide it at once into the more minute and remote parts. It would by no means be proper to divide a kingdom firſt into ſtreets, and lanes, and fields, but it muſt be firſt divided into provinces or counties, then thoſe counties may be divided into towns, villages, fields, &c. and towns into ſtreets and lanes.

III. Rule. *The ſeveral parts of a diviſion ought to be oppoſite*, that is, *one part ought not to contain another.* It would be a ridiculous diviſion of an animal into head, limbs, body, and brain, for the brains are contained in the head.

Yet here it muſt be noted, that ſometimes the ſubjects of any treatiſe, or the objects of any particular ſcience may be properly and neceſſarily ſo divided, that the ſecond may include the firſt, and the third may include the firſt and ſecond, without offending againſt this rule, becauſe in the ſecond or following parts of the ſcience or diſcourſe, theſe objects are not conſidered in the ſame manner as in the firſt; as for inſtance, geometry divides its objects into lines, ſurfaces and ſolids: now though a line be contained in a ſurface, or a ſolid, yet it is not conſidered in a ſurface, ſeparate and alone, or as a mere line, as it is in the firſt part of geometry, which treats of lines. So logic is rightly divided into *conception*, *judgment*, *reaſoning*, and *method*. For though ideas or conceptions are contained in the following parts of logic, yet they are not there treated of as ſeparate ideas, which are the proper ſubject of the firſt part.

IV. Rule. *Let not ſubdiviſions be too numerous without neceſſity*; for it is better many times to diſtinguiſh more parts at once if the ſubject will bear it, than to mince the diſcourſe by exceſſive dividing and ſubdividing. It is preferable therefore in a treatiſe of geography to ſay, that in a city we will conſider its walls, its gates, its buildings, its ſtreets, and lanes, than to divide it formally firſt into the encompaſſing and encompaſſed parts; the encompaſſing parts are the walls and gates; the encompaſſed part includes the ways and the buildings; the ways are the ſtreets and lanes; buildings conſiſt of the foundations and the ſuperſtructure, &c.

Too great a number of ſubdiviſions has been affect-

ed by ſome perſons in *ſermons, treatiſes, inſtructions*, &c. under pretence of greater accuracy: but this ſort of ſubtilties hath often given great confuſion to the underſtanding, and ſometimes more difficulty to the memory. In theſe caſes it is only a good judgment can determine what ſubdiviſions are needful.

V. Rule. *Divide every ſubject according to the ſpecial deſign you have in view.* One and the ſame idea or ſubject may be divided in very different manners, according to the different purpoſes we have in diſcourſing of it. So if a printer were to conſider the ſeveral parts of a book, he muſt divide it into ſheets, the ſheets into pages, the pages into lines, and the lines into letters. But a grammarian divides a book into periods, ſentences and words, or parts of ſpeech, as *noun, pronoun, verb*, &c. A logician conſiders a book as divided into *chapters, ſections, arguments, propoſitions, ideas*; and with the help of ontology, he divides the propoſitions into *ſubject, object, property, relation, action, paſſion, cauſe, effect*, &c. But it would be very ridiculous for a logician to divide a book into ſheets, pages, and lines; or for a printer to divide it into nouns and pronouns, or into propoſitions, ideas, properties or cauſes.

VI. Rule. *In all your diviſions obſerve with greateſt exactneſs the nature of things.* And here I am conſtrained to make a ſubdiviſion of this rule into two very neceſſary particulars.

(1.) Let the parts of your diviſion be ſuch as are properly diſtinguiſhed in nature. Do not divide aſunder thoſe parts of the idea which are intimately united in nature, nor unite thoſe things into one part which nature has evidently disjoined: this would be very improper in treating of an animal body, to divide it into the ſuperior and inferior halves: for it would be hard to ſay how much belongs by nature to the inferior half, and how much to the ſuperior. Much more improper would it be ſtill to divide the animal into the right-hand parts and left-hand parts, which would bring greater confuſion. This would be as unnatural as a man who ſhould cleave a haſel-nut in halves through the huſk, the ſhell, and the kernel, at once, and ſay a nut is divided into theſe two parts; whereas nature

leads plainly to the threefold diſtinction of huſk, ſhell, and kernel.

(2.) Do not affect *duplicities* nor *triplicities*, nor any certain number of parts in your diviſion of things; for we know of no ſuch certain number of parts which God the creator has obſerved in forming all the varieties of his creatures, nor is there any uniform determined number of parts in the various ſubjects of human art or ſcience; yet ſome perſons have diſturbed the order of nature, and abuſed their readers by an affectation of *dichotomies*, *trichotomies*, *ſevens*, *twelves*, &c. Let the nature of the ſubject, conſidered together with the deſign which you have in view, always determine the number of parts into which you divide it.

After all it muſt be confeſſed that an intimate knowledge of things, and a judicious obſervation will aſſiſt in the buſineſs of diviſion, as well as of definition, better than too nice and curious an attention to the mere formalities of logical writers, without a real acquaintance with things.

SECT. IX.

Of a comprehenſive Conception of Things, and of Abſtraction.

THE third rule to direct our conception requires us to conceive of things comprehenſively. And we muſt ſurvey an object in all its parts to obtain a complete idea of it, ſo we muſt conſider it in all its *modes*, *attributes*, *properties*, and *relations*, in order to obtain a comprehenſive conception of it.

The comprehenſion of an idea, as it was explained under the doctrine of *univerſals*, includes only the eſſential modes or attributes of that idea; but in this place the word is taken in a larger ſenſe, and implies alſo the various occaſional properties, accidental modes and relations.

The neceſſity of this rule is founded upon the ſame

reaſon as the former, *viz.* That our minds are narrow and ſcanty in their capacities, and as they are not able to conſider all the parts of a complex idea at once, ſo neither can they at once contemplate all the different attributes and circumſtances of it: we muſt therefore conſider things ſucceſſively and gradually in their various appearances and circumſtances: as our natural eye cannot at once behold the ſix ſides of a dye or cube, nor take cognizance of all the points that are marked on them, and therefore we turn up the ſides ſucceſſively, and thus ſurvey and number the points that are marked on each ſide, that we may know the whole.

In order to a comprehenſive view of any idea we muſt firſt conſider, whether the object of it has an exiſtence as well as an eſſence; whether it be a ſimple or complex idea; whether it be a ſubſtance or a mode: if it be a ſubſtance, then we muſt enquire what are the eſſential modes of it, which are neceſſary to its nature, and what are thoſe properties or accidents of it, which belong to it occaſionally, or as it is placed in ſome particular circumſtances: we muſt view it in its internal and abſolute modes, and obſerve it in thoſe various external relations in which it ſtands to other beings: we muſt conſider it in its powers and capacities either to do or ſuffer: we muſt trace it up to its various cauſes, whether ſupreme or ſubordinate. We muſt deſcend to the variety of its effects, and take notice of its ſeveral ends and deſigns which are to be attained by it. We muſt conceive of it as it is either an object or a ſubject; what are the things that are a-kin to it, and what are the oppoſites or contraries of it; for many things are to be known both by their contrary and their kindred ideas.

If the thing we diſcourſe of be a mere mode, we muſt inquire whether it belongs to ſpirits or bodies; whether it be a phyſical or moral mode: if moral, then we muſt conſider its relation to God, to ourſelves, to our neighbours; its reference to this life, or the life to come. If it be a virtue, we muſt ſeek what are the principles of it, what are the rules of it, what are the tendencies of it, and what are the falſe virtues that counterfeit it, and what are the real vices that oppoſe

it, what are the evils which attend the neglect of it, what are the rewards of the practice of it both here and hereafter.

If the ſubject be hiſtorical or a matter of fact, we may then inquire whether the action was done at all; whether it was done in ſuch a manner, or by ſuch perſons as is reported; at what time it was done; in what place; by what motive, and for what deſign; what is the evidence of the fact; who are the witneſſes; what is their character and credibility; what ſigns there are of ſuch a fact; what concurrent teſtimonies which may either ſupport the truth of it, or render it doubtful.

In order to make due inquiries into all theſe and many other particulars which go towards the complete and comprehenſive idea of any being, the ſcience of ontology is exceeding neceſſary. This is what was wont to be called the firſt part of metaphyſics in the peripatetic ſchools. It treats of being in its moſt general nature, and of all its affections and relations. I confeſs the old popiſh ſchoolmen have mingled a number of uſeleſs ſubtilties with this ſcience; they have exhauſted their own ſpirits, and the ſpirits of their readers in many laborious and intricate trifles, and ſome of their writings have been fruitful of names without ideas, which hath done much injury to the ſacred ſtudy of divinity. Upon this account many of the moderns have moſt unjuſtly abandoned the whole ſcience at once, and thrown abundance of contempt and raillery upon the very name of metaphyſics; but this contempt and cenſure is very unreaſonable, for this ſcience ſeparated from ſome Ariſtotelian fooleries and ſcholaſtic ſubtilties, is ſo neceſſary to a diſtinct conception, ſolid judgment, and juſt reaſoning on many ſubjects, that ſometimes it is introduced as a part of logic, and not without reaſon. And thoſe who utterly deſpiſe and ridicule it, either betray their own ignorance, or will be ſuppoſed to make their wit and banter a refuge and excuſe for their own lazineſs. Yet thus much I would add, that the late writers of ontology are generally the beſt on this account, becauſe they have left out much of the ancient jargon. See the brief ſcheme of ontology in the philoſophical eſſays by I. W.

Here let it be noted that it is neither uſeful, neceſſary, or poſſible to run through all the modes, circumſtances, and relations of every ſubject we take in hand; but in ontology we enumerate a great variety of them, that ſo a judicious mind may chooſe what are thoſe circumſtances, relations and properties of any ſubject, which are moſt neceſſary to the preſent deſign of him that ſpeaks or writes, either to explain, to illuſtrate, or to prove the point.

As we arrive at the complete knowledge of an idea in all its parts, by that act of the mind which is called diviſion, ſo we come to a comprehenſive conception of a thing in its ſeveral properties and relations, by that act of the mind which is called abſtraction, that is, we conſider each ſingle relation or property of the ſubject alone, and thus we do as it were withdraw and ſeparate it in our minds both from the ſubject itſelf, as well as from other properties and relations, in order to make a fuller obſervation of it.

This act of abſtraction is ſaid to be two-fold, either preciſive or negative.

Preciſive abſtraction is when we conſider thoſe things apart which cannot really exiſt apart: as when we conſider a mode, without conſidering its ſubſtance and ſubject, or one eſſential mode without another. Negative abſtraction is when we conſider one thing ſeparate from another, which may alſo exiſt without it; as when we conceive of a ſubject without conceiving of its accidental modes or relations; or when we conceive of one accident without thinking of another. If I think of reading or writing, without the expreſs idea of ſome man, this is preciſive abſtraction; or if I think of the attraction of iron, without the expreſs idea of ſome particular magnetic body. But when I think of a needle, without an idea of its ſharpneſs, this is negative abſtraction; and it is the ſame when I think of its ſharpneſs without conſidering its length.

SECT. X.

Of the extenſive Conception of Things, and of Diſtribution.

AS the completeneſs of an idea, refers to the ſeveral parts that compoſe it, and the comprehenſion of an idea includes various properties, ſo the extenſion of an idea denotes the various ſorts or kinds of beings to which the ſame idea belongs; and if we would be fully acquainted with a ſubject we muſt obſerve.

This fourth rule to direct our conceptions, viz. Conceive of things in all their extenſion, that is, we muſt ſearch out the various ſpecies or ſpecial natures which are contained under it as a genus or general nature. If we would know the nature of an animal perfectly, we muſt take cognizance of beaſts, birds, fiſhes and inſects, as well as men, all which are contained under the general nature and name of animal.

As an integral whole is diſtinguiſhed into its ſeveral parts by diviſion, ſo the word diſtribution is moſt properly uſed when we diſtinguiſh an univerſal whole into its ſeveral kinds of ſpecies; and perhaps it had been better if this word had been always confined to this ſignification, though it muſt be confeſſed, that we frequently ſpeak of the diviſion of an idea into its ſeveral kinds, as well as into ſeveral parts.

The rules of a good diſtribution are much the ſame with thoſe which we have before applied to diviſion, which may be juſt repeated again in the briefeſt manner, in order to give examples to them.

I. Rule. *Each part ſingly taken muſt contain leſs than the whole, but all the parts taken collectively or together, muſt contain neither more nor leſs than the whole;* or as logicians ſometimes expreſs it, the parts of the diviſion ought to exhauſt the whole thing which is divided. So medicine is juſtly diſtributed into *prophylactic*, or the art of perſerving health; and *therapeutic*, or the art of reſtoring health: for there is no other ſort of medicine

beſides theſe two. But men are not well diſtributed into tall or ſhort, for there are ſome of a middle ſtature.

II. Rule. In all diſtributions we ſhould firſt conſider the larger and more immediate kinds of ſpecies, or ranks of being, and not divide a thing at once into the more minute and remote. A genus ſhould not at once be divided into individuals, or even into the loweſt ſpecies, if there be a ſpecies ſuperior. Thus it would be very improper to divide animal into trout, lobſter, eel, dog, bear, eagle, dove, worm and butterfly, for theſe are inferior kinds; whereas animal ought firſt to be diſtributed into man, beaſt, bird, fiſh, inſect; and then beaſt, ſhould be diſtributed into dog, bear, *&c.* bird into eagle, dove, *&c.* fiſh into trout, eel, lobſter, *&c.*

It is irregular alſo to join any inferior ſpecies in the ſame rank or order with the ſuperior; as if we would diſtinguiſh animals into birds, bears and oyſters, *&c.* It would be a ridiculous diſtribution.

III. Rule. *The ſeveral parts of a diſtribution ought to be oppoſite; that is, one ſpecies or claſs of beings in the ſame rank of diviſion ought not to contain or include another;* ſo men ought not to be divided into the rich, the poor, the learned, and the tall, for poor men may be both learned and tall, and ſo may the rich.

But it will be objected, are not animated bodies rightly diſtributed into vegetative and animal, or (as they are uſually called) ſenſitive? now the ſenſitive contains the vegetative nature in it, for animals grow as well as plants. I anſwer, that in this and all ſuch diſtributions, the word vegetative ſignifies merely vegetative: and in this ſenſe vegetative will be ſufficiently oppoſite to animal, for it cannot be ſaid of an animal that it contains mere vegetation in the idea of it.

IV. Rule. *Let not ſubdiviſions be too numerous without neceſſity;* therefore I think quantity is better diſtinguiſhed at once into a line, a ſurface, and a ſolid, than to ſay as Ramus does, that quantity is either a line, or a thing lined; and a thing lined is either a ſurface or a ſolid.

V. Rule. *Diſtribute every ſubject according to the ſpecial deſign you have in view, ſo far as is neceſſary or uſeful to your preſent inquiry.* Thus a politician diſtributes man-

kind according to their civil characters into the rulers and the ruled: and a phyſician divides them into the ſick or the healthy; but a divine diſtributes them into Turks, Heathens, Jews, or Chriſtians.

Here note, that it is a very uſeleſs thing to diſtribute any idea into ſuch kinds or members as have no different properties to be ſpoken of; as it is mere trifling to divide right angles into ſuch whoſe legs are equal, and whoſe legs are unequal, for as to the mere right angle they have no different properties.

VI. Rule. *In all your diſtributions obſerve the nature of things with great exactneſs;* and do not affect any particular form of diſtribution, as ſome perſons have done, by dividing every genus into two ſpecies, or into three ſpecies; whereas nature is infinitely various, and human affairs and human ſciences have as great a variety, nor is there any one form of diſtribution that will exactly ſuit with all ſubjects.

Note, it is to this doctrine of diſtribution of a genus into its ſeveral ſpecies, we muſt alſo refer the diſtribution of a cauſe according to its ſeveral effects, as ſome medicines are heating, ſome are cooling; or an effect, when it is diſtinguiſhed by its cauſes, as faith is either built upon divine teſtimony or human. It is to this head we refer particular artificial bodies, when they are diſtinguiſhed according to the matter they are made of, as a ſtatue is either of braſs, of marble, or wood, *&c.* and any other beings, when they are diſtinguiſhed according to their end and deſign, as the furniture of body or mind is either for ornament or uſe. To this head alſo we refer ſubjects when they are divided according to their modes or accidents; as men are either merry or grave, or ſad; and modes, when they are divided by their ſubjects, as diſtempers belong to the fluids, or to the ſolid parts of the animal.

It is alſo to this place we reduce the propoſals of a difficulty under its various caſes, whether it be in ſpeculation or practice; as to ſhew the reaſon of ſun-beams burning wood, whether it be done by a convex glaſs or a concave, or to ſhew the conſtruction and menſuration of triangles, whether you have two angles and a ſide given, or two ſides and an angle, or only three.

ſides. Here it is neceſſary to diſtribute or divide a difficulty into all its caſes, in order to gain a perfect knowledge of the ſubject you contemplate.

It might be obſerved here, that logicians have ſometimes given a mark or ſign to diſtinguiſh when it is an integral whole, that is divided into its parts or members, or when it is a genus, an univerſal whole, that is diſtributed into its ſpecies and individuals. The rule they give is this: whenſoever the whole idea can be directly and properly affirmed of each part, as a bird is an animal, a fiſh is an animal; Bucephalus is a horſe; Peter is a man; then it is a diſtribution of a genus into its ſpecies, or a ſpecies into its individuals: but when the whole cannot be thus directly affirmed concerning every part, then it is a diviſion of an integral into its ſeveral ſpecies or members; as we cannot ſay the head, the breaſt, the hand, or the foot is an animal, but we ſay, the head is a part of the animal, and the foot is another part.

This rule may hold true generally in corporeal beings, or perhaps in all ſubſtances: but when we ſay the fear of God is wiſdom, and ſo is human civility: criticiſm is true learning, and ſo is philoſophy: to execute a murderer is juſtice, and to ſave and defend the innocent is juſtice too: in theſe caſes it is not ſo eaſily determined, whether an integral whole be divided into its parts, or an univerſal into its ſpecies: for the fear of God may be called either one part, or one kind of wiſdom: criticiſm is one part, or one kind of learning; and the execution of a murderer may be called a ſpecies of juſtice as well as part of it. Nor indeed is it a matter of great importance to determine this controverſy.

SECT. XI.

Of an orderly Conception of Things.

THE laſt rule to direct our conceptions is that we ſhould rank and place them in a proper method and juſt order. This is of neceſſary uſe to prevent

confuſion; for as a trader who never places his goods in his ſhop or warehouſe in a regular order, nor keeps the accounts of his buying and ſelling, paying and receiving in a juſt method, is in utmoſt danger of plunging all his affairs into confuſion and ruin; ſo a ſtudent who is in the ſearch of truth, or an author or teacher who communicates knowledge to others, will very much obſtruct his deſign, and confound his own mind or the mind of his hearers, unleſs he range his ideas in juſt order.

If we would therefore become ſucceſsful learners or teachers, we muſt not conceive of things in a confuſed heap, but diſpoſe our ideas in ſome certain method, which may be moſt eaſy and uſeful both for the underſtanding and memory; and be ſure as much as may be to follow the nature of things, for which many rules might be given, *viz.*

1. Conceive as much as you can of the eſſentials of any ſubject, before you conſider its accidentals.

2. Survey firſt the general parts and properties of any ſubject, before you extend your thoughts to diſcourſe of the particular kind or ſpecies of it.

3. Contemplate things firſt in their own ſimple natures, and afterwards view them in compoſition with other things; unleſs it be your preſent purpoſe to take a compound being to pieces, in order to find out or to ſhew the nature of it by ſearching and diſcovering of what ſimples it is compoſed.

4. Conſider the abſolute modes or affections of any being as it is in itſelf, before you proceed to conſider it relatively, or to ſurvey the various relations in which it ſtands to other beings, &c.

Note, Theſe rules chiefly belong to the method of inſtruction which the learned call ſynthetic.

But in the regulation of our ideas their is ſeldom an abſolute neceſſity that we ſhould place them in this or the other particular method: it is poſſible in ſome caſes that many methods may be equally good, that is, may equally aſſiſt the underſtanding and the memory: to frame a method exquiſitely accurate, according to the ſtrict nature of things, and to maintain this accuracy from the beginning to the end of a treatiſe, is a moſt

rare and difficult thing, if not impoſſible. But a larger account of method would be very improper in this place, leſt we anticipate what belongs to the fourth part of logic.

SECT. XII.

The five Rules of Conception examplified.

IT may be uſeful here to give a ſpecimen of the five ſpecial rules to direct our conceptions, which have been the ſubject of this long chapter, and repreſent them practically in one view.

Suppoſe the theme of our diſcourſe were the paſſions of the mind.

1ſt To gain a clear and diſtinct idea of paſſion, we muſt define both the name and the thing.

To begin with the definition of the name we are not here to underſtand the word paſſion in its vulgar and moſt limited ſenſe, as it ſignifies merely anger or fury; nor do we take it in its moſt extenſive philoſophical ſenſe, for the ſuſtaining the action of an agent; but in the more limited philoſophical ſenſe, paſſions ſignify the various affections of the mind, ſuch as admiration, love or hatred; this is the definition of the name.

We proceed to the definition of the thing, paſſion is defined a ſenſation of ſome ſpecial commotion in animal nature, occaſioned by the mind's perception of ſome object ſuited to excite that commotion.* Here

* Since this was written, I have publiſhed a ſhort treatiſe of the paſſions, wherein I have ſo far varied from this definition as to call them ſenſible commotions of our whole nature, both ſoul and body, occaſioned by the mind's perception of the objects, &c. I made this alteration in the deſcription of the paſſions in that book, chiefly to include in a more explicite manner the paſſions of deſire and averſion which are acts of volition rather than ſenſations. Yet ſince ſome commotions of animal nature attend all the paſſions, and ſince there is always a ſenſation of theſe commotions, I ſhall not change the definition I have written here: for this will agree to all the paſſions whether they include any act of volition or not; nor indeed is the matter of any great importance. Nov. 17, 1728.

the genus or general nature of paſſion is a ſenſation of ſome ſpecial commotion in animal nature; and herein it agrees with hunger, thirſt, pain, &c. The eſſential difference of it is, that this commotion ariſes from a thought or perception of the mind, and hereby it is diſtinguiſhed from hunger, thirſt, or pain.

2*dly*, We muſt conceive of it completely, or ſurvey the ſeveral parts that compoſe it. Theſe are (1.) The mind's perception of ſome object. (2.) The conſequent ruffle or ſpecial commotions of the nerves, and blood, and animal ſpirits. And (3.) The ſenſation of this inward commotion.

3*dly*, We muſt conſider it comprehenſively in its various properties. The moſt eſſential attributes that make up its nature has been already mentioned under the foregoing heads. Some of the moſt conſiderable properties that remain are theſe, *viz.* That paſſion belongs to all mankind in greater or leſſer degrees: it is not conſtantly preſent with us, but upon ſome certain occaſions: it is appointed by our Creator for various uſeful ends and purpoſes, *viz.* to give us vigour in the purſuit of what is good and agreeable to us, or in the avoidance of what is hurtful: it is very proper for our ſtate of trial in this world: It is not utterly to be rooted out of our nature, but to be moderated and governed according to rules of virtue and religion, &c.

4*thly*, We muſt take cognizance of the various kinds of it, which is called an extenſive conception of it. If the object which the mind perceives be very uncommon, it excites the paſſion of admiration: if the object appear agreeable it raiſes love: if the agreeable object be abſent and attainable it is deſirable: if likely to be obtained, it excites hope: if unattainable deſpair: if it be preſent and poſſeſſed, it is the paſſion of joy: if loſt, it excites ſorrow; if the object be diſagreeable it cauſes in general hatred or averſion; if it be abſent and yet we are in danger of it, it raiſes our fear: if it be preſent, it is ſorrow and ſadneſs, &c.

5*thly*, All theſe things and many more which go to compoſe a treatiſe on this ſubject muſt be placed in their proper order: a ſlight ſpecimen of which is exhibited in this ſhort account of paſſion, and which that

admirable author Deſcartes has treated of at large; though, for want of ſufficient experiments and obſervations in natural philoſophy, there are ſome few miſtakes in his account of animal nature.

SECT. XIII.

An Illuſtration of theſe five Rules by Similitudes.

THUS we have brought the firſt part of logic to a concluſion: and it may not be improper here to repreſent its excellencies (ſo far as we have gone) by general hints of its chief deſign and uſe, as well as by a various compariſon of it to thoſe inſtruments which mankind have invented for their ſeveral conveniences and improvements.

The deſign of logic is not to furniſh us with the perceiving faculty, but only to direct and aſſiſt us in the uſe of it: it doth not give us the objects of our ideas, but only caſts ſuch a light on thoſe objects which nature furniſhes us with, that they may be the more clearly and diſtinctly known: it doth not add new parts or properties to things, but it diſcovers the various parts, properties, relations and dependencies of one thing upon another, and by ranking all things under general and ſpecial heads, it renders the nature, or any of the properties, powers, and uſes of a thing more eaſy to be found out, when we ſeek in what rank of beings it lies, and wherein it agrees with, and wherein it differs from others

If any compariſons would illuſtrate this, it may be thus repreſented.

When logic aſſiſts us to attain a clear and diſtinct conception of the nature of things by definition, it is like thoſe glaſſes whereby we behold ſuch objects diſtinctly, as by reaſon of their ſmallneſs or their great diſtance appear in confuſion to the naked eye: ſo the teleſcope diſcovers to us diſtant wonders in the heavens,

and ſhews the milky way, and and the bright cloudy ſpots in a very dark ſky to be a collection of little ſtars, which the eye unaſſiſted beholds in mingled confuſion. So when bodies are too ſmall for our ſight to ſurvey them diſtinctly, then the microſcope is at hand for our aſſiſtance, to ſhew us all the limbs and features of the moſt minute animals, with great clearneſs and diſtinction.

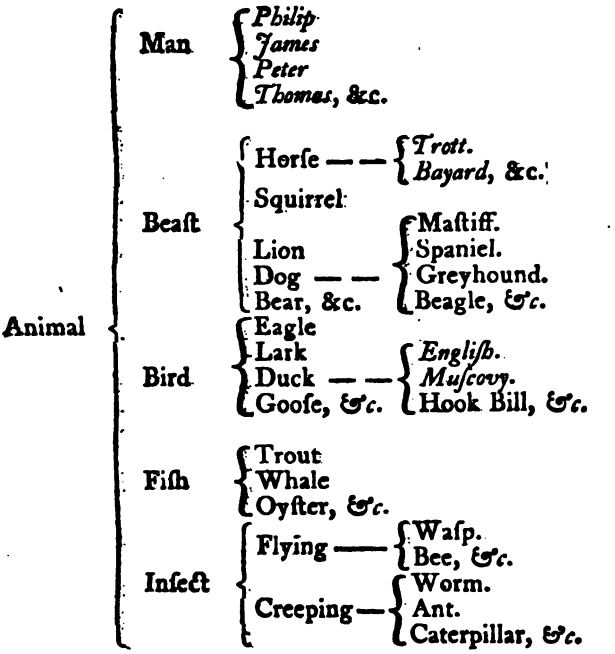
II. When we are taught by logic to view a thing completely in all its parts by the help of diviſion, it has the uſe of an anatomical knife, which diſſects an animal body, and ſeparates the veins, arteries, nerves, muſcles, membranes, &c. and ſhews us the ſeveral parts which go to the compoſition of a complete animal.

III. When logic inſtructs us to ſurvey an object comprehenſively in all the modes, properties, relations, faces and appearances of it, it is of the ſame uſe as a terreſtrial globe, which turning round on its axis repreſents to us all the variety of land and ſeas, kingdoms and nations on the ſurface of the earth in a very ſhort ſucceſſion of time, ſhews the ſituation and various relations of them to each other, and gives a comprehenſive view of them in miniature.

IV. When this art teaches us to diſtribute any extenſive idea into its different kinds or ſpecies, it may be compared to the priſmatic glaſs, that receives the ſun beams or rays of light, which ſeem to be uniform when falling upon it, but it ſeparates and diſtributes them into their different kinds and colours, and ranks them in their proper ſucceſſion.

Or if we deſcend to ſubdiviſions and ſubordinate ranks of being, then diſtribution may alſo be ſaid to form the reſemblance of a natural tree, wherein the genus or general idea ſtands for the root or ſtock, and the ſeveral kinds of ſpecies, and individuals, are diſtributed abroad, and repreſented in their dependence and connection, like the ſeveral boughs, branches, and leſſer ſhoots. For inſtance, let animal be the root of a logical tree, the reſemblance is ſeen by mere inſpec-

tion, though the root be not placed at the bottom of the page.



The ſame ſimilitude will ſerve alſo to illuſtrate the diviſion and ſubdiviſion of an integral whole, into its ſeveral parts.

When logic directs us to place all our ideas in a proper method, moſt convenient both for inſtruction and memory, it doth the ſame ſervice as the caſes of well contrived ſhelves in a large library wherein folio's quarto's, octavo's, and leſſer volumes, are diſpoſed in ſuch exact order under the particular heads of divinity, hiſtory, mathematics, ancient and miſcellaneous learning, &c. that the ſtudent knows where to find every book, and has them all as it were within his command

at once, becauſe of the exact order wherein they are placed.

The man who has ſuch aſſiſtances as theſe at hand, in order to manage his conceptions and regulate his ideas, is well prepared to improve his knowledge, and to join thoſe ideas together in a regular manner by judgment, which is the ſecond operation of the mind, and will be the ſubject of the ſecond part of logic.

THE

SECOND PART

OF

L O G I C.

Of JUDGMENT and PROPOSITION.

WHEN the mind has got acquaintance with things by framing ideas of them, it proceeds to the next operation, and that is, to compare theſe ideas together, and to join them by affirmation, or diſjoin them by negation, according as we find them to agree or diſagree. This act of the mind is called judgment; as when we have by perception obtained the ideas of Plato a *philoſopher*, *man*, *innocent*, we form theſe judgments; Plato was a philoſopher; no man is innocent.

Some writers have aſſerted, that judgment conſiſts in a mere perception of the agreement or diſagreement of ideas. But I rather think there is an act of the will (at leaſt in moſt caſes) neceſſary to form a judgment; for though we do perceive or think we perceive ideas to agree or diſagree, yet we may ſometimes refrain from judging or aſſenting to the perception, for fear leſt the perception ſhould not be ſufficiently clear, and we ſhould be miſtaken: and I am well aſſured at other times, that there are multitudes of judgments formed, and a firm aſſent given to ideas joined or disjoined, before there is any clear perception whether they agree or

diſagree; and this is the reaſon of ſo many falſe judgments or miſtakes among men. Both theſe practices are a proof that judgment has ſomething of the will in it, and does not merely conſiſt in perception, ſince we ſometimes judge (though unhappily) without perceiving, and ſometimes we perceive without immediate judging.

As an idea is the reſult of our conception or apprehenſion, ſo a propoſition is the effect of judgment. The foregoing ſentences which are examples of the act of judgment are properly called propoſitions. Plato is a philoſopher, &c.

Here let us conſider,

1. The general nature of a *propoſition*, and the parts of which it is compoſed.
2. The various diviſions or kinds of *propoſitions*.
3. The ſprings of falſe judgment, or the doctrine of prejudices.
4. General directions to aſſiſt us in judging aright.
5. Special rules to direct us in judging particular objects.

CHAP. I.

OF THE NATURE OF A PROPOSITION, AND ITS SEVERAL PARTS.

A PROPOSITION is a ſentence wherein two or more ideas or terms are joined or disjoined by one affirmation or negation, as Plato was a philoſopher: every angle is formed by two lines meeting: no man living on earth can be completely happy. When there are ever ſo many ideas or terms in the ſentence, yet if they are joined or disjoined merely by one ſingle affirmation or negation, they are properly called but one propoſition though they may be reſolved into ſeveral propoſitions which are implied therein, as will appear hereafter.

In deſcribing a propoſition I uſe the word terms as well as ideas, becauſe when mere ideas are joined in the mind without words, it is rather called a judgment, but when cloathed with words, it is called a propoſition, even though it be in the mind only, as well as when it is expreſſed by ſpeaking or writing.

There are three things which go to the nature and conſtitution of a propoſition, *(viz.)* the ſubject, the predicate and the compula.

The ſubject of a propoſition is that concerning which any thing is affirmed or denied: ſo Plato, angle, man, living on earth, are the ſubjects of the foregoing propoſitions.

The predicate is that which is affirmed or denied of the ſubject; ſo philoſopher is the predicate of the firſt propoſition; formed by two lines meeting, is the predicate of the ſecond; capable of being completely happy, is the proper predicate of the third.

The ſubject and predicate of a propoſition taken together are called the matter of it; for theſe are the materials of which it is made.

The copula is the form of a propoſition; it repreſents the act of the mind affirming or denying, and it is expreſſed by theſe words, am, art, is, are, *&c.* or, am not, art not, is not, are not, *&c.*

It is not a thing of importance enough to create a diſpute, whether the words no, none, not, never, *&c.* which diſjoin the idea or terms in a negative propoſition, ſhall be called a part of the ſubject of the copula, or of the predicate. Sometimes perhaps they may ſeem moſt naturally to be included in one, and ſometimes in another of theſe, though a propoſition is uſually denominated affirmative or negative by its copula, as hereafter.

Note 1. Where each of theſe parts of a propoſition is not expreſſed diſtinctly in ſo many words, yet they are all underſtood, and implicitely contained therein; as Socrates diſputed, is a complete propoſition, for it ſignifies Socrates was diſputing. So I die, ſignifies I am dying. I can write, that is, I am able to write. In Latin and Greek one ſingle word is many times a complete propoſition.

Note 2. Theſe words, am, art, is, &c. when they are uſed alone without any other predicate ſignify both the act of the mind judging, which includes the copula, and ſignify alſo actual exiſtence, which is the predicate of that propoſition. So Rome is, ſignifies Rome is exiſtent; there are ſome ſtrange monſters, that is, ſome ſtrange monſters are exiſtent: Carthage is no *more*, that is, Carthage has no being.

Note 3. The ſubject and predicate of a propoſition are not always to be known and diſtinguiſhed by the placing of the words in the ſentence, but by reflecting duly on the ſenſe of the words, and on the mind and deſign of the ſpeaker or writer; as if I ſay, in Africa there are many lions, I mean many lions are exiſtent in Africa; many lions is the ſubject, and exiſtent in Africa is the predicate. It is proper for a philoſopher to underſtand geometry; here the word proper is the predicate, and all the reſt is the ſubject, except is the copula.

Note 4. The ſubject and predicate of a propoſition ought always to be two different ideas, or two different terms; for where both the terms and ideas are the ſame, it is called an identical propoſition, which is mere trifling, and cannot tend to promote knowledge; ſuch as, a rule is a rule, or a good man is a good man.

But there are ſome propoſitions, wherein the terms of the ſubject and predicate ſeem to be the ſame; yet the ideas are not the ſame; nor can theſe be called purely indentical; or trifling propoſitions; ſuch as home is home; that is, home is a convenient or delightful place: Socrates is Socrates ſtill; that is, the man Socrates is ſtill a philoſopher: the hero was not a hero; that is, the hero did not ſhew his courage; what I have written, I have written; that is, what I wrote I ſtill approve, and will not alter it; what is done, is done; that is, it cannot be undone. It may be eaſily obſerved in theſe propoſitions the term is equivocal, for in the predicate it has a different idea from what it has in the ſubject.

There are alſo ſome propoſitions wherein the terms of the ſubject and predicate differ, but the ideas are the ſame; and theſe are not merely indentical or trifling

propoſitions; as imprudent is ſhameleſs; a billow is a wave; or fluctus (in Latin) is a wave; a globe is a round body. In theſe propoſitions either the words are explained by a definition of the name, or the ideas by a definition of the things, and therefore they are by no means uſeleſs when formed for this purpoſe.

CHAP. II.

OF THE VARIOUS KINDS OF PROPOSITIONS.

PROPOSITIONS may be diſtributed into various kinds, according to their ſubject, their copula, their predicate, their nature or compoſition, their ſenſe, and their evidence, which diſtributions will be explained in the following ſections.

SECT. I.

Of univerſal, particular, indefinite, and ſingular Propoſitions.

PROPOSITIONS may be divided according to their ſubject into univerſal and particular; this is uſually called a diviſion ariſing from the quantity.

An univerſal propoſition is when the ſubject is taken according to the whole of its extenſion; ſo if the ſubject be a genus, or general nature, it includes all its ſpecies or kinds; if the ſubject be a ſpecies, it includes all its individuals. This univerſality is uſually ſignified by theſe words, all, every, no, none, or the like; as, all men muſt die: no man is almighty; every creature had a beginning.

A particular propoſition is when the ſubject is not taken according to its whole extenſion; that is, when

the term is limited and reſtrained to ſome one or more of thoſe ſpecies or individuals, whoſe general nature it expreſſes, but reaches not to all; and this is uſually denoted by the words, ſome, many, a few, there are, which, *&c.* as, ſome birds can ſing well; few men are truly wiſe: there are parrots which will talk a hundred things.

Under the general name of univerſal propoſitions, we may juſtly include thoſe that are ſingular, and for the moſt part thoſe that are indefinite alſo.

A ſingular propoſition is when the ſubject is a ſingular or individual term or idea; as Deſcartes was an ingenious philoſopher: Sir Iſaac Newton has far exceeded all his predeceſſors: the palace at Hampton-Court is a pleaſant dwelling: this day is very cold. The ſubject here muſt be taken according to the whole of its extension, becauſe being and individual it can extend only to one, and it muſt therefore be regulated by the laws of univerſal propoſition.

An indefinite propoſition is when no note, either of univerſality or particularity is prefixed to a ſubject, which is in its own nature general; as a planet is ever changing its place; Angels are noble creatures. Now this ſort of propoſition, eſpecially when it deſcribes the nature of things, is uſually counted univerſal alſo, and it ſuppoſes the ſubject to be taken in its whole extenſion: for if there were any planet which did not change its place, or any angel that were not a noble creature, theſe propoſitions would not be ſtrictly true.

Yet in order to ſecure us againſt miſtakes in judging of univerſal, particular and indefinite propoſitions, it is neceſſary to make theſe following remarks.

I. *Concerning univerſal propoſitions.*

Note. 1. Univerſal terms may either denote a metaphyſical, a phyſical, or a moral univerſality.

A metaphyſical or mathematical univerſality is when all the particulars contained under any general idea have the ſame predicate belonging to them without any exception whatſoever; or when the predicate is ſo eſſential to the univerſal ſubject, that it deſtroys the very nature of the ſubject to be without it; as, all circles

have a center and circumſtances: all ſpirits in their own nature are immortal.

A physical or natural univerſality is when, according to the order and common courſe of nature, a predicate agrees to all the ſubjects of that kind, though there may be ſome accidental and preternatural exceptions; as, all men uſe words to expreſs their thoughts, yet dumb perſons are excepted, for they cannot ſpeak. All beaſts have four feet, yet there may be ſome monſters with five; or maimed, who have but three.

A moral univerſality is when the predicate agrees to the greateſt part of the particulars which are contained under the univerſal ſubject; as, all negroes are ſtupid creatures: all men are governed by affection rather than by reaſon: all the old Romans loved their country: and the ſcripture uſes this language, when St. Paul tells us, the Cretes are always liars.

Now it is evident, that a ſpecial or ſingular concluſion cannot be inferred from a moral univerſality, nor always and infallibly from a physical one, tho' it may be always inferred from an univerſality which is metaphyſical, without any danger or poſſibility of a miſtake.

Let it be obſerved alſo, that uſually we make little or no diſtinction in common language, between a ſubject that is physically or metaphyſically univerſal.

Note 2. An univerſal term is ſometimes taken collectively for all its particular ideas united together, and ſometimes diſtributively, meaning each of them ſingle and alone.

Inſtances of a collective univerſal are ſuch as theſe; all theſe apples will fill a buſhel; all the hours of the night are ſufficient for ſleep: all the rules of grammar over-load the memory. In theſe propoſitions it is evident, that the predicate belongs not to the individuals ſeparately, but to the whole collective idea; for we cannot affirm the ſame predicate, if we change the word all into one or every, we cannot ſay one apple, or every apple will fill a buſhel, *&c.* Now ſuch a collective idea, when it becomes the ſubject of a propoſition, ought to be eſteemed as one ſingle thing, and this renders the propoſition ſingular or indefinite, as we ſhall ſhew immediately.

A diſtributive univerſal will allow the word all to be changed into every, or into one, and by this means is diſtinguiſhed from a collective.

Inſtances of a diſtributive univerſal are the moſt common on every occasion; as, all men are mortal; every man is a ſinner, &c. But in this ſort of univerſal *there* is a diſtribution to be made, which follows in the next remark.

Note 3. When an univerſal term is taken diſtributively, ſometimes it includes all the individuals contained in its inferior ſpecies; as when I ſay every ſickneſs has a tendency to death; I mean every individual ſickneſs, as well as every kind. But ſometimes it includes no more than merely each ſpecies or kind; as when the evangeliſt ſays Chriſt healed every diſeaſe, or every diſeaſe was healed by Chriſt; that is, every kind of diſeaſe. The firſt of theſe, logicians call the diſtribution of an univerſal in *ſingula generum*; the laſt is a diſtribution in *genera ſingulorum*. But either of them joined to the ſubject render a propoſition univerſal.

Note 4. The univerſality of a ſubject is often reſtrained by a part of the predicate; as when we ſay all men learn wiſdom by experience; the univerſal ſubject, all men is limited to ſignify only, all thoſe men who learn wiſdom. The ſcripture alſo uſes this ſort of language, when it ſpeaks of all men being juſtified by the righteouſneſs of one, Rom. v. 18, that is all men who are juſtified obtain it this way.

Obſerve here, that not only a metaphyſical or natural, but a moral univerſality alſo is oftentimes to be reſtrained by a part of the predicate; as when we ſay, all the Dutch are good ſeamen: all the Italians are ſubtile politicians; that is, thoſe among the Dutch that are ſeamen are good ſeamen; and thoſe among the Italians who are politicians are ſubtle politicians, that is, they are generally ſo.

Note 5. The univerſality of a term is many times reſtrained by the particular time, place, circumſtance, &c. or the deſign of the ſpeaker; as if we are in the city of London, and ſay, all the weavers went to preſent their petition; we mean only all the weavers who dwell

in the city. So when it is ſaid in the goſpel, all men did marvel, Mark v. 20. it reaches only to all thoſe men who heard of the miracles of our Saviour.

Here alſo it ſhould be obſerved, that a moral univerſality is reſtrained by time, place, and other circumſtances, as well as a natural; ſo that by theſe means the word all ſometimes does not extend to a tenth part of thoſe who at firſt might ſeem to be included in that word.

One occaſion of theſe difficulties and ambiguities, that belong to univerſal propoſitions, is the common humour and temper of mankind, who generally have an inclination to magnify their ideas, and to talk roundly and univerſally concerning any thing they ſpeak of; which has introduced univerſal terms of ſpeech into cuſtom and habit, in all nations and all languages, more than nature or reaſon would dictate; yet when this cuſtom is introduced, it is not at all improper to uſe this ſort of language in ſolemn and ſacred writings, as well as in familiar diſcourſe.

II. Remarks concerning *indefinite propoſitions*.

Note 1. Propoſitions carrying in them univerſal forms of expreſſion may ſometimes drop the note of univerſality, and become indefinite, and yet retain the ſame univerſal ſenſe, whether metaphyſical, natural or moral, whether collective or diſtributive.

We may give inſtances of each of theſe.

Metaphyſical; as, a circle has a center and circumference. *Natural*; as, beaſts have four feet. *Moral*, as, negroes are ſtupid creatures. *Collective*; as, the apples will fill a buſhel. *Diſtributive*; as, men are mortal.

Note 2. There are many caſes wherein a collective idea is expreſſed in a propoſition by an indefinite term, and that where it deſcribes the nature or quality of the ſubject, as well as when it declares ſome paſt matters of fact; as, fir-trees ſet in good order will give a charming proſpect; this muſt ſignify a collection of fir-trees, for one makes no proſpect. In matters of fact this is more evident and frequent; as the Romans overcame the Gauls: the robbers ſurrounded the coach:

the wild geese flew over the Thames in the form of a wedge. All theſe are collective ſubjects.

Note 3. In indefinite propoſitions the ſubject is often reſtrained by the predicate, or by the ſpecial time, place, or circumſtances, as well as in propoſitions which are expreſly univerſal; as the Chineſes are ingenious ſilk-weavers, that is, thoſe Chineſes, which are ſilk-weavers, are ingenious at their work. The ſtars appear to us when the twilight is gone. This can ſignify no more than the ſtars which are above our horizon.

Note 4. All theſe reſtrictions tend to reduce ſome indefinite propoſitions almoſt into particulars, as will appear under the next remarks.

III. Remarks concerning *particular propoſitions*.

Note 1. A particular propoſition may ſometimes be expreſſed indefinitely without any note of particularity prefixed to the ſubject: as, in times of confuſion laws are not executed: men of virtue are diſgraced, and murderers eſcape, that is, ſome laws, ſome men of virtue, ſome murderers: unleſs we ſhould call this language a moral univerſality, though I think it can hardly extend ſo far.

Note 2. The words ſome, a few, &c. though they generally denote a proper particularity, yet ſometimes they expreſs a collective idea; as ſome of the enemies befet the general around. A few Greeks would beat a thouſand Indians.

I conclude this ſection with a few general remarks on this ſubject, (viz.)

Gen. Rem. I. Since *univerſal, indefinite*, and *particular terms* in the plural number, may either be taken in a collective or diſtributive ſenſe, there is one ſhort and eaſy way to find when they are collective and when diſtributive, (viz.) If the plural number may be changed into the ſingular, that is, if the predicate will agree to one ſingle ſubject, it is a diſtributive idea; if not, it is collective.

Gen. Rem. II. *Univerſal* and *particular* terms in the plural number, ſuch as, *all, ſome, few, many*, &c. when

they are taken in their diſtributive ſenſe, repreſent ſeveral ſingle ideas; and when they are thus affixed to the ſubject of a propoſition, render that propoſition univerſal or particular, according to the univerſality or particularity of the terms affixed.

Gen. Rem. III. *Univerſal* and *particular* terms in the plural number, taken in their collective ſenſe, repreſent generally one collective idea.

If this one collective idea be thus repreſented (whether by univerſal or particular terms) as the ſubject of a propoſition which deſcribes the nature of a thing, it properly makes either a ſingular or an indefinite propoſition; for the words, all, ſome, a few, &c. do not then denote the quantity of the propoſition, but are eſteemed merely as terms which connect the individuals together in order to compoſe one collective idea. Obſerve theſe inſtances, all the ſycamores in the garden would make a large grove; that is, this one collection of ſycamores, which is a ſingular idea. Some of the ſycamores in the garden would make a fine grove. Sycamores would make a noble grove: in theſe laſt the ſubject is rather indefinite than ſingular. But it is very evident, that in each of theſe propoſitions the predicate can only belong to a collective idea, and therefore the ſubject muſt be eſteemed a collective.

If this collective idea (whether repreſented by univerſal or particular terms) be uſed in deſcribing paſt matters of fact, then it is generally to be eſteemed a ſingular idea, and renders the propoſition ſingular; as, all the ſoldiers of Alexander made but a little army: a few Macedonians vanquiſhed the large army of Darius; ſome grenadiers in the camp plundered all the neighbouring towns.

Now we have ſhewn before, that if a propoſition deſcribing the nature of things, has an indefinite ſubject, it is generally to be eſteemed univerſal in its propoſitional ſenſe; and if it has a ſingular ſubject, in its propoſitional ſenſe it is always ranked with univerſals.

After all we muſt be forced to confeſs, that the language of mankind, and the idioms of ſpeech are ſo exceeding various, that it is hard to reduce them to a few

rules; and if we would gain a juſt and preciſe idea of every univerſal, particular and indefinite expreſſion, we muſt not only consider the particular idiom of the language, but the time, the place, the occasion, the circumſtances of the matter ſpoken of, and thus penetrate as far as poſſible into the design of the ſpeaker or writer.

SECT. II.

Of affirmative and negative Propoſitions.

WHEN a proposition is considered with regard to its *copula*, it may be divided into affirmative and negative; for it is a *copula* joins or disjoins the two ideas. Others call this a division of propoſition according to their quality.

An *affirmative propoſition* is when the idea of the predicate is ſuppoſed to agree to the idea of the ſubject, and is joined to it by the word is, or are, which are the *copula*; as, all men are sinners. But when the predicate is not ſuppoſed to agree with the ſubject, and is disjoined from it by the particles is not, are not, &c. the proposition is negative: as, man is not innocent; or, no man is innocent. In an affirmative proposition we aſſert one thing to belong to another, and as it were, unite them in thought and word; in negative propositions we ſeparate one thing from another, and deny their agreement.

It may become ſomething odd, that two ideas or terms are ſaid to be disjoined as well as joined by a *copula*: but if we can but ſuppoſe the negative particles do really belong to the *copula* of negative propoſitions, it takes away the harſhneſs of the expreſſion; and to make it yet ſofter, we may consider that the predicate and ſubject may be properly ſaid to be joined in a form of words as a proposition, by connective particles in grammar or logic, though they are disjoined in their ſenſe and ſignification. Every youth who has

learned his grammar, knows there are ſuch words as disjunctive conjunctions.

Several things are worthy of our notice on this ſubject.

Note 1. As there are ſome terms or words, and ideas, (as I have ſhewn before) concerning which it is hard to determine whether they are negative or poſitive, ſo there are ſome propoſitions concerning which it may be difficult to ſay, whether they affirm or deny; as, when we ſay, Plato was no fool: Cicero was no unſkilful orator: Cæſar made no expedition to Muſcovy: an oyſter has no part like an eel; It is not neceſſary for a phyſician to ſpeak French, and for a phyſician to ſpeak French is needleſs. The ſenſe of theſe propoſitions is very plain and eaſy, though logicians might ſquabble perhaps a whole day, whether they ſhould rank them under the names of negative or affirmative.

Note 2. In Latin and Engliſh two negatives joined in one ſentence make an affirmative; as when we declare, no man is not mortal, it is the ſame as though we ſaid, man is mortal, but in Greek, and oftentimes in French, two negatives make but a ſtronger denial.

Note 3. If the mere negative term, *not*, be added to the *copula* of an univerſal affirmative propoſition, it reduces it to a particular negative; as, all men are not wiſe, ſignifies the ſame as, ſome men are not wiſe.

Note 4. In all affirmative propoſitions, the predicate is taken in its whole comprehenſion; that is, every eſſential part and attribute of it is affirmed concerning the ſubject; as when I ſay, a true chriſtian is an honeſt man, every thing that belongs to honeſty is affirmed concerning a true chriſtian.

Note 5. In all negative propoſitions the predicate is taken in its whole extenſion: that is, every ſpecies and individual that is contained in the general idea of the predicate, is utterly denied concerning the ſubject; ſo in this propoſition, a ſpirit is not an animal, we exclude all ſorts and kinds and particular animals whatſoever from the idea of a ſpirit.

From theſe two laſt remarks we may derive this inference, that we ought to attend to the entire comprehenſion of our ideas, and to the univerſal extenſion of

them, as far as we have proper capacity for it, we grow too confident in our affirming or denying thing, which may have the leaſt darkneſs, doubt ficulty attending it: it is the want of that attention betrays us into many miſtakes.

SECT. III.

Of the Oppoſition and Converſion of Propoſitions.

ANY two ideas being joined or disjoined in ous forms will afford us ſeveral propoſitions these may be diſtinguiſhed according to their quan and their quality * into four, which are marked or noted by the letters A, E, I, O, thus:

A	denotes a	Univerſal affirmative.
E		Univerſal negative.
I		Particular affirmative.
O		Particular negative.

according to theſe old Latin rhymes——

Aſſerit A, Negat E, verum generaliter ambæ;
Aſſerit I, Negat O, ſed particulariter ambo.

This may be exemplified by theſe two ideas, a *Vine* and a *Tree*.

A *Every Vine is a Tree.*
E *No Vine is a Tree.*
I *Some Vine is a Tree.*
O *Some Vine is not a Tree.*

The logicians of the ſchools have written many large trifles concerning the *oppoſition* and *converſion* of *propoſitions*. It will be ſufficient here to give a few brief

* The reader ſhould remember here, that a propoſition according to its quantity is called univerſal or particular, and according to its quality, it is either affirmative or negative.

hints of theſe things, that the learner may not be utterly ignorant of them.

Propoſitions which are made of the ſame ſubject and predicate are ſaid to be oppoſite, when that which is denied in one is affirmed in the other, either in whole or in part, without any conſideration whether the propoſitions be true or no.

If they differ both in quantity and quality, they are ſaid to be contradictory; as,

A *Every Vine is a Tree*
O *Some Vine is not a Tree.*
} Theſe can never be both true, or both falſe at the ſame time.

If two univerſals differ in quality, they are *contraries*; as,

A *Every Vine is a Tree.*
E *No Vine is a Tree.*
} Theſe can never be both true together, but they may be both falſe.

If two particular propoſitions differ in quality, they are *ſubcontraries*; as,

I *Some Vine is a Tree.*
O *Some Vine is not a Tree.*
} Theſe may be both true together, but they can never be both falſe.

Both *particular* and *univerſal* propoſitions which agree in quality, but not in quantity, are called *ſubaltern*, though theſe are not properly oppoſite, as

A *Every Vine is a Tree.*
I *Some Vine is a Tree.*

Or thus:

E *No Vine is a Tree.*
O *Some Vine is not a Tree.*

The canons of *ſubaltern* propoſitions are uſually reckoned theſe three, (viz) (1). If any univerſal propoſition be true, the particular will be true alſo, but not on the contrary. And (2) If a particular propoſition be falſe, the univerſal muſt be falſe, but not on the contrary. (3.) *Subaltern propoſitions*, whether univerſal or particular, may ſometimes be both true, and ſometimes both falſe.

The converſion of propo[illegible] when the ſubject

and predicate change their places with preſervation of the truth. This may be done with conſtant certainty in all univerſal negatives and particular affirmatives; as, no ſpirit is an animal, may be converted, no animal is a ſpirit; and ſome tree is a vine, may be converted, ſome vine is a tree. But there is more formal *trifling* in this ſort of diſcourſe than there is of ſolid improvement, becauſe this ſort of converſion ariſes merely from the form of words, as connected in a propoſition, rather than from the matter.

Yet it may be uſeful to obſerve, that there are ſome propoſitions, which by reaſon of the ideas or matter of which they are compoſed may be converted with conſtant truth: ſuch are thoſe propoſitions whoſe predicate is a nominal or real definition of the ſubject, or the difference of it, or a property of the fourth kind, or a ſuperlative degree of any property or quality whatſoever, or in ſhort, whereſoever the predicate and the ſubject have exactly the ſame extenſion or the ſame comprehenſion; as, every vine is a tree bearing grapes, and every tree bearing grapes is a vine: religion is the trueſt wiſdom, and the trueſt wiſdom is religion: Julius Cæſar was the firſt emperor of Rome; and the firſt emperor of Rome was Julius Cæſar. Theſe are the propoſitions which are properly convertible, and they are called reciprocal propoſitions.

SECT. IV.

Of pure and modal Propoſitions.

ANOTHER diviſion of propoſitions among the ſcholaſtic writers is into pure and modal. This may be called (for diſtinction ſake) a diviſion according to the predicate.

When a propoſition merely expreſſes that the predicate is connected with the ſubject, it is called a pure propoſition; as, every true chriſtian is an honeſt man.

But when it concludes alſo the way and manner wherein the predicate is connected with the ſubject, it is called a modal propoſition; as, when I ſay, it is neceſſary that a true chriſtian ſhould be an honeſt man.

Logical writers generally make the modality of this propoſition to belong to the copula, becauſe it ſhews the manner of the connection between ſubject and predicate. But if the form of the ſentence as a logical propoſition be duly conſidered, the mode itſelf is the very predicate of the propoſition, and it muſt run thus: that a true chriſtian ſhould be an honeſt man is a neceſſary thing, and then the whole primary propoſition is included in the ſubject of the modal propoſition.

There are four modes of connecting the predicate with the ſubject, which are uſually reckoned up on this occaſion (viz.) Neceſſity and contingency which are two oppoſites, poſſibility and impoſſibility which are alſo two oppoſites; as, it is neceſſary that a globe ſhould be round; that a globe be made of wood or glaſs is an unneceſſary or contingent thing: it is impoſſible that a globe ſhould be ſquare: it is impoſſible that a globe ſhould be of water.

With regard to the modal propoſitions which the ſchools have introduced, I would make theſe two remarks:

Remark 1. Theſe propoſitions in Engliſh are formed by the reſolution of the words, muſt be, might not be, can be, and cannot be, unto thoſe more explicate forms of a logical copula and predicate, is neceſſary, is contingent, is poſſible, is impoſſible; for it is neceſſary that a globe ſhould be round, ſignifies no more than that a globe muſt be round.

Remark 2. Let it be noted that this quadruple modality is only an enumeration of the natural modes or manners wherein the predicate is connected with the ſubject: we might alſo deſcribe ſeveral moral and civil modes of connecting two ideas together (viz.) lawfulneſs and unlawfulneſs, conveniency and inconveniency, *&c.* whence we may form ſuch modal propoſitions as theſe. It is unlawful for any perſon to kill an innocent man: it is unlawful for chriſtians to eat fleſh in lent: to tell all that we think is inexpedient: for a

man to be affable to his neighbour is very convenient, &c.

There are ſeveral other modes of ſpeaking whereby a predicate is connected with a ſubject: ſuch as, it is certain, it is doubtful, it is probable, it is improbable, it is agreed, it is granted, it is ſaid by the ancients, it is written, &c. all which will form other kinds of *modal* propoſitions.

But whether the modality be natural, moral, &c. yet in all theſe propoſitions it is the mode is the proper predicate, and all the reſt of the propoſition, except the copula (or word is) belongs to the ſubject; and thus they become pure propoſitions of a complex nature, of which we ſhall treat in the next ſection, ſo that there is no great need of making modals a diſtinct ſort.

There are many little ſubtleties which the ſchools acquaint us with concerning the converſion and oppoſition and equipollence of theſe modal propoſitions, ſuited to the Latin or Greek tongues rather than the Engliſh, and fit to paſs away the idle time of a ſtudent, rather than to enrich his underſtanding.

SECT. V.

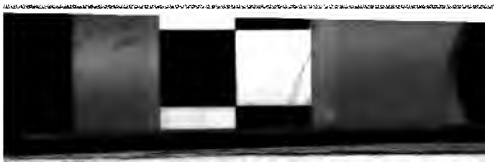
Of ſingle Propoſitions, whether ſimple or complex.

WHEN we conſider the nature of propoſitions, together with the formation of them, and the materials whereof they are made, we divide them into ſingle and compound.

A ſingle propoſition is that which has but one ſubject and one predicate, but if it has more ſubjects or more predicates, it is called a compound propoſition, and it contains two or more propoſitions in it.

A ſingle propoſition (which is alſo called categorical) may be divided again into ſimple and complex*.

* As ſimple ideas are oppoſed to complex, and ſingle ideas to compound, ſo propoſitions are diſtinguiſhed in the ſame manner; the



A purely ſimple propoſition is that whoſe ſubject and predicate are made up of ſingle terms; as, virtue is deſirable: every penitent is pardoned; no man is innocent.

When the ſubject or predicate, or both, are made up of complex terms, it is called a complex proposition; as, every ſincere penitent is pardoned; virtue is deſirable for its own ſake; no man alive is perfectly innocent.

If the term which is added to the ſubject of a complex propoſition be either eſſential or any way neceſſary to it, then it is called explicative, for it only explains the ſubject; as every mortal man is a ſon of Adam. But if the term added to make up the complex ſubject does not neceſſarily or conſtantly belong to it, then it is determinative, and limits the ſubject to a particular part of its extension; as, every pious man ſhall be happy. In the firſt propoſition the word mortal is merely explicative: in the ſecond propoſition the word pious is determinative.

Here note, that whatſoever may be affirmed or denied concerning any ſubject, with an explicative addition, may be alſo affirmed or denied of that ſubject without it; as we may boldly ſay, every man is a ſon of Adam, as well as every mortal man: but it is not ſo, where the addition is determinative, ſo we cannot ſay, every man ſhall be happy, though every pious man ſhall be ſo.

In a complex propoſition the predicate or ſubject is ſometimes made complex by the pronouns who, which, whoſe, to whom, *&c*, which make another propoſition; as every man who is pious, ſhall be ſaved: Julius, whoſe ſirname was Cæſar, overcame Pompey: bodies, which are tranſparent, have many pores. Here the whole propoſition is called the primary or chief, and the additional propoſition is called an incident propoſition. But it is ſtill to be eſteemed in this caſe merely as a part of the complex term; and the truth or falſhood of the whole complex propoſition is not to be

Engliſh tongue in this reſpect having ſome advantage above the learned languages, which have no uſual word to diſtinguiſhed ſingle from ſimple.

judged by the truth or falſhood of the incident propoſition, but by the connection of the whole ſubject with the predicate. For the incident propoſition may be falſe, and abſurd, or impoſſible, and yet the whole complex propoſition may be true, as a horſe, which has wings, might fly over the Thames.

Beside this complection which belongs to the *ſubject* or predicate, logical writers uſe to ſay, there is a complection which may fall upon the copula alſo; but this I have accounted for in the ſection concerning modal propoſitions; and indeed it is not of much importance whether it were placed there or here.

SECT VI.

Of compound Propoſitions.

A COMPOUND propoſition is made up of two or more ſubjects or predicates, or both; and it contains in it two or more propoſitions, which are either plainly expreſſed, or concealed and implied.

The firſt ſort of compound propoſitions are thoſe wherein the compoſition is expreſſed and evident, and they are diſtinguiſhed into theſe ſix kinds, (viz.) copulative, disjunctive, conditional, cauſal, relative and diſcretive.

I. *Copulative propoſitions* are thoſe which have more ſubjects or predicates connected by affirmative or negative conjuctions; as, riches and honours are temptations to pride; Cæſar conquered the Gauls and the Britons; neither gold nor jewels will purchaſe immortality. Theſe propoſitions are evidently compounded, for each of them may be reſolved into two propoſitions, (viz) riches are temptations to pride, and honour is a temptation to pride; and ſo the reſt.

The truth of copulative propoſitions depends upon the truth of all the parts of them; for if Cæſar had

conquered the Gauls, and not the Britons, or the Britons and not the Gauls, the ſecond copulative propoſition had not been true.

Here note, thoſe propoſitions, which cannot be reſolved into two or more ſimple propoſitions, are not properly copulative, though two or more ideas be connected and coupled by ſuch conjunctions, either in the ſubject or predicate: as, two and three make five: majeſty and meekneſs do not often meet: the ſun, moon, and ſtars are not all ſeen at once. Such propoſitions are to be eſteemed merely complex, becauſe the predicate cannot be affirmed of each ſingle ſubject, but only of all of them together as a collective ſubject.

II. *Disjunctive propoſitions* are when the parts are disjoined or oppoſed to one another by disjunctive particles; as, it is either day or night: the weather is either ſhining or rainy: quantity is either length, breadth or depth.

The truth of disjunctives depends on the neceſſary and immediate oppoſition of the parts; therefore only the laſt of theſe examples is true: but the two firſt are not ſtrictly true, becauſe twilight is a medium between day and night; and dry, cloudy weather is a medium between ſhining and rainy.

III. *Conditional or hypothetical propoſitions* are thoſe whoſe parts are united by the conditional particle if; as, if the ſun be fixed, the earth muſt move: if there be no fire, there will be no ſmoke.

Note, the firſt part of theſe propoſitions, or that wherein the condition is contained, is called the antecedent, the other is called the conſequent.

The truth of theſe propoſitions depends not at all on the truth and falſhood of their two parts, but on the truth of the connection of them; for each part of them may be falſe, and yet the whole propoſition true; as, if there be no providence, there will be no future judgment.

IV. *Cauſal propoſitions* are where two propoſitions are joined by cauſal particles: as, houſes were not built that they might be deſtroyed: Rehoboam was unhappy becauſe he followed evil counſel.

The truth of a cauſal propoſition ariſes not from the

truth of the parts, but from the cauſal influence that the one part of it has upon the other; for both parts may be true, yet the propoſition falſe, if one part be not the cauſe of the other.

Some logicians refer reduplicative propoſitions to this place, as, men, conſidered as men, are rational creatures, that is, becauſe they are men.

V *Relative propoſitions* have their parts joined by ſuch particles, as expreſs a relation or compariſon of one thing to another; as when you are ſilent I will ſpeak; as much as you are worth, ſo much you ſhall be eſteemed; as is the father ſo is the ſon; where there is no tale-bearer, contention will ceaſe.

Theſe are very much a-kin to conditional propoſitions, and the truth of them depends upon the juſtneſs of their connection.

VI. *Diſcretive propoſitions* are ſuch wherein various and ſeemingly oppoſite judgments are made, whoſe variety or diſtinction is noted by the particles, but, though, yet, &c. as, travellers may change their climate but not their temper; Job was patient, though his grief was great.

The truth and goodneſs of a diſcretive propoſition depends on the truth of both parts, and their contradiction to one another; for though both parts ſhould be true, yet if there be no ſeeming oppoſition between them, it is an uſeleſs aſſertion, though we cannot call it a falſe one; as Deſcartes was a philoſopher, yet he was a Frenchman; the Romans were valiant, but they ſpoke Latin; both which propoſitions are ridiculous, for want of a ſeeming oppoſition between the parts.

Since we have declared wherein the truth and falſhood of thoſe compound propoſitions conſiſts, it is proper alſo to give ſome intimations how any of theſe propoſitions when they are falſe may be oppoſed or contradicted.

All compound propoſitions, except copulatives and diſcretives, are properly denied or contradicted when the negation affects their conjunctive particles; as, if the disjunctive propoſition aſſerts, it is either day or night. The opponent ſays, it is not either day or night, or it is not neceſſary that it ſhould be either day or

night, ſo the hypothetical propoſition is denied by ſaying, it does not follow that the earth muſt move if the ſun be fixed.

A disjunctive propoſition may be contradicted alſo by denying all the parts; as, it is neither day nor night.

And a cauſal propoſition may be denied or oppoſed indirectly and improperly, when either part of the propoſition is denied; and it muſt be falſe of either part be falſe; but the deſign of the propoſition being to ſhew the cauſal connection of the two parts, each part is ſuppoſed to be true, and it is not properly contradicted as a cauſal propoſition, unleſs one part of it be denied to be the cauſe of the other.

As for copulatives and diſcretives, becauſe their truth depends more on the truth of their parts, therefore theſe may be oppoſed or denied as many ways, as the parts of which they are compoſed may be denied; ſo this copulative propoſition, riches and honour are temptations to pride, may be denied by ſaying, riches are not temptations though honour may be: or, honour is not a temptation, though riches may be; or, neither riches nor honour are temptations, *&c.*

So this diſcretive propoſition, Job was patient, though his grief was great, is denied by ſaying, Job was not patient, though his grief was great: or, Job was patient, but his grief was not great: or, Job was not patient, nor was his grief great.

We proceed now to the ſecond ſort of compound propoſitions, *viz.* ſuch whoſe compoſition is not expreſſed, but latent or concealed, yet a ſmall attention will find two propoſitions included in them. Such are theſe that follow;

1. *Excluſives;* as, the pious man alone is happy, it is only Sir Iſaac Newton could find out true philoſophy.

2. *Exceptives;* as, none of the ancients but Plato well defended the ſoul's immortality. The proteſtants worſhip none but God.

3. *Comparatives;* as, pain is the greateſt affliction. No Turk was fiercer than the Spaniards at Mexico

Here note, that the comparative degree does not always imply the poſitive; as if I ſay a fool is better than a knave, this does not affirm that folly is good, but that it is a leſs evil than knavery.

4. *Inceptives* and *deſitives*, which relate to the beginning or ending of any thing: as, the Latin tongue is not yet forgotten. No man before Orpheus wrote Greek verſe. Peter Czar of Muſcovy began to civilize his nation.

To theſe may be added continuatives; as, Rome remains to this day, which includes at leaſt two propoſitions, *viz.* Rome was, and Rome is.

Here let other authors ſpend time and pains in giving the preciſe definitions of all theſe ſorts of propoſitions, which may as well be underſtood by their names and examples: here let them tell what their truth depends upon, and how they are to be oppoſed or contradicted; but a moderate ſhare of common ſenſe, with a review of what is ſaid on the former compounds, will ſuffice for all theſe purpoſes without the formality of rules.

SECT. VII.

Of true and falſe Propoſitions.

PROPOSITIONS are next to be conſidered according to their ſenſe or ſignification, and thus they are diſtributed into true or falſe. A true propoſition repreſents things as they are in themſelves; but if things are repreſented otherwiſe than they are in themſelves, the propoſition is falſe.

Or we may deſcribe them more particularly thus: a true propoſition joins thoſe ideas and terms together whoſe objects are joined and agree, or it diſjoins thoſe ideas and terms, whoſe objects diſagree or are diſjoined; as, every bird has wings, a brute is not immortal.

A falſe propoſition joins thoſe ideas or terms whoſe objects diſagree, or it diſjoins thoſe whoſe objects agree; as, birds have no wings, brutes are immortal.

Note, It is impoſſible that the ſame propoſition ſhould be both true and falſe at the ſame time, in the ſame ſenſe and in the ſame reſpect; becauſe a propoſition is but the repreſentation of the agreement or diſagreement of things: now it is impoſſible that the ſame thing ſhould be and not be, or that the ſame thing ſhould agree and not agree at the ſame time and in the ſame reſpect. This is the firſt principle of human knowledge.

Yet ſome propoſitions may ſeem to contradict one another, though they may be both true, but in different ſenſes or reſpects or times: as, man was immortal in paradiſe, and man was mortal in paradiſe. But theſe two propoſitions muſt be referred to different times; as, man before his fall was immortal, but at the fall became mortal. So we may ſay now, man is mortal, or, man is immortal, if we take theſe propoſitions in different reſpects; as, man is an immortal creature as to his ſoul, but mortal as to his body. A great variety of difficulties and ſeeming contradictions, both in holy ſcripture and other writings, may be ſolved and explained in this manner.

This moſt important queſtion on this ſubject is this, what is the criterion, or diſtinguiſhing mark of truth? how ſhall we know when a proposition is really true or falſe? there are ſo many diſguiſes of truth in the world, ſo many falſe appearances of truth, that ſome ſects have declared there is no poſſibility of diſtinguiſhing truth from falſhood; and therefore they have abandoned all pretences to knowledge, and maintained ſtrenuouſly that knothing is to be known.

The firſt men of this humour made themſelves famous in Greece by the name of Sceptics, that is, Seekers: they were alſo called Academics, borrowing their name from *academia*, their ſchool or place of ſtudy. They taught that all things are uncertain, though they allowed that ſome are more probable than others. After there aroſe the ſect of Pyrrhonics, named from Pyrrho their maſter, who would not allow one

proposition to be more probable than another; but profeſſed that all things were equally uncertain. Now all theſe men (as an ingenious author expreſſes it) were rather to be called a ſect of liars than philoſophers, and that cenſure is juſt for two reaſons. (1.) becauſe they determined concerning every propoſition that it was uncertain, and believed that as a certain truth, while they profeſſed there was nothing certain, and that nothing could be determined concerning truth or falſhood; and thus their very doctrine gave itſelf the lie. (2). Becauſe they judged and acted as other men did in the common affairs of life; they would neither run into fire nor water, though they profeſſed ignorance and uncertainty, whether the one would burn or the other drown them.

There have been ſome in all ages who have too much affected this humour, who diſpute againſt every thing, under pretence that truth has no certain mark to diſtinguiſh it. Let us therefore inquire, what is the general criterion of truth? and in order to this, it is proper to conſider what is the reaſon why we aſſent to thoſe propoſitions, which contain the moſt certain and indubitable truths, ſuch as theſe, the whole is greater than a part; two and three make five.

The only reaſon why we believe thoſe propoſitions to be true, is becauſe the ideas of the ſubject and predicates appear with ſo much clearneſs and ſtrength of evidence to agree to each other, that the mind cannot help diſcerning the agreement, and cannot doubt of the truth of them, but is conſtrained to judge them true. So when we compare the ideas of a circle and a triangle, or the ideas of an oyſter and a butterfly, we ſee ſuch an evident diſagreement between them, that we are ſure that the butterfly is not an oyſter; nor is a triangle a circle. There is nothing but the evidence of the agreement or diſagreement between two ideas, that make us affirm or deny the one or the other.

Now it will follow from thence that a clear and diſtinct perception or full evidence of the agreement and diſagreement of our ideas to one another, or to things, is a certain criterion of truth: for ſince our minds are of ſuch a make, that where the evidence is exceeding

plain and ſtrong, we cannot with-hold our aſſent; we ſhould then be neceſſarily expoſed to believe falſhood, if complete evidence ſhould be found in any propoſitions that are not true. But ſurely the God of perfect wiſdom, truth and goodneſs would never oblige his creatures to be thus deceived; and therefore he would never have conſtituted us of ſuch a frame as would render it naturally impoſſible to guard againſt error.

Another conſequence is naturally derived from the former; and that is, that the only reaſon why we fall into a miſtake is becauſe we are impatient to form a judgment of things before we have a clear and evident perception of their agreement or diſagreement; and if we will make haſte to judge while our ideas are obſcure and confuſed, or before we ſee whether they agree or diſagree, we ſhall plunge ourſelves into perpetual errors. See more on this ſubject in an eſſay on the freedom of will in God and man; publiſhed 1732. Sect. 1. p. 13.

Note, What is here aſſerted concerning the neceſſity of clear and diſtinct ideas refer chiefly to propoſitions, which we form ourſelves by our own powers: as for propoſitions which we derive from the teſtimony of others, they will be accounted for in chap. IV.

SECT. VIII.

Of certain and dubious Propoſitions, of Knowledge and Opinion.

SINCE we have found that evidence is the great criterion and the ſure mark of truth; this leads us directly to conſider propoſitions according to their evidence; and here we muſt take notice both of the different degrees of evidence, and the different kinds of it.

Propoſitions according to their different degrees of evidence are diſtinguiſhed into certain and dubious.*

* It may be objected, that this certainty and uncertainty being only in the mind, the diviſion belongs to propoſitions rather according

Where the evidence of the agreement or diſagreement of the ideas is ſo ſtrong and plain, that we cannot forbid or delay our aſſent, the propoſition is called certain; as, every circle hath a centre; the world did not create itſelf. An aſſent to ſuch propoſitions is honoured with the name of knowledge.

But when there is any obſcurity upon the agreement or diſagreement of the ideas, ſo that the mind does not clearly perceive it, and is not compelled to aſſent or diſſent, then the propoſition, in a proper and philoſophical ſenſe, is called doubtful or uncertain; as, the planets are inhabited; the ſouls of brutes are mere matter; the world will not ſtand a thouſand years longer; Dido built the city of Carthage, *&c.* Such uncertain propoſitions are called opinions.

When we conſider ourſelves as philoſophers or ſearchers of truth, it would be well if we always ſuſpended a full judgment or determination about any thing, and made further inquiries, where this plain and perfect evidence is wanting; but we are ſo prone of ourſelves to judge without full evidence, and in ſome caſes the neceſſity of action in the affairs of *life*, conſtrains us to judge and determine upon a tolerable degree of evidence, that we vulgarly call thoſe propoſitions certain, where we have but very little room or reaſon to doubt of them, though the evidence be not complete or reſiſtleſs.

Certainty, according to the ſchools, is diſtinguiſhed into objective and ſubjective. Objective certainty is when the propoſition is certainly true in itſelf; and ſubjective, when we are certain of the truth of it. The one is in things, the other is in our minds.

But let it be obſerved here, that every propoſition in itſelf is certainly true, or certainly falſe. For tho' doubtfulneſs or uncertainty ſeems to be a medium be-

to the degrees of our aſſent, than the degrees of evidence. But it may well be anſwered, that the evidence here intended is that which appears ſo to the mind and not the mere evidence in the nature of things; beſides, (as we ſhall ſhew immediately) the degree of aſſent ought to be exactly proportionable to the degree of evidence: and therefore the difference is not great, whether propoſitions be called certain or uncertain, according to the meaſure of evidence, or of aſſent.

tween certain truth and certain falſhood in our minds, yet there is no ſuch medium in things themſelves, no, not even in future events: for now at this time it is certain in itſelf, that Midſummer-day ſeven years hence will be ſerene, or it is certain it will be cloudy, though we are uncertain and utterly ignorant what ſort of day it will be: this certainty of diſtant futurities is known to God only.

Uncertain or dubious propoſitions, that is, opinions, are diſtinguiſhed into probable, or improbable.

When the evidence of any propoſition is greater than the evidence of the contrary, then it is a probable opinion: where the evidence and arguments are ſtronger on the contrary ſide, we call it improbable. But while the arguments on either ſide ſeem to be equally ſtrong, and the evidence for and againſt any propoſition appears equal to the mind, then in common language we call it a doubtful matter. We alſo call it a dubious or doubtful propoſition, when there is no argument on either ſide, as next Chriſtmas-day will be a very ſharp froſt. And in general all theſe propoſitions are doubtful, wherein we can perceive no ſufficient marks or evidences of truth or falſhood. In ſuch a caſe, the mind which is ſearching for truth ought to remain in a ſtate of doubt or ſuſpence, until ſuperior evidence on one ſide or the other incline the balance of the judgment, and determine the probability or certainty to the one ſide,

A great many propoſitions which we generally believe or diſbelieve in human affairs, or in the ſciences, have very various degrees of evidence, which yet ariſe not to complete certainty, either of truth or falſhood. Thus it comes to paſs that there are ſuch various and almoſt infinite degrees of probability and improbability. To a weak probability we ſhould give a weak aſſent; and a ſtronger aſſent is due where the evidence is greater, and the matter more probable. If we proportion our aſſent in all things to the degrees of evidence, we do the utmoſt that human nature is capable of in a rational way to ſecure itſelf from error.

SECT. IX.

Of Senſe, Conſciouſneſs, Intelligence, Reaſon, Faith, and Inſpiration.

AFTER we have conſidered the evidence of propoſitions in the various degrees of it, we come to ſurvey the ſeveral kinds of evidence, or the different ways whereby truth is let into the mind, and which produce accordingly ſeveral kinds of knowledge. We ſhall diſtribute them into theſe ſix, (viz.) ſenſe, conſciouſneſs, intelligence, reaſon, faith, and inſpiration, and then diſtinguiſh the propoſitions which are derived from them.

I. *The evidence of ſenſe is* when we frame a propoſition according to the dictate of any of our ſenſes; ſo we judge that graſs is green; that a trumpet gives a pleaſant ſound; the fire burns wood; water is ſoft, and iron is hard: for we have ſeen, heard or felt all *theſe*. It is upon this evidence of ſenſe that we know and believe the daily occurrences in human life; and almoſt all the hiſtories of mankind that are written, by eye or ear witneſſes are built upon this principle.

Under the evidence of ſenſe we do not only include that knowledge which is derived to us by our outward ſenſes of hearing, ſeeing, feeling, taſting, and ſmelling, but that alſo which is derived from the inward ſenſations and appetites of hunger, thirſt, eaſe, pleaſure, pain, wearineſs, reſt, *&c.* and all thoſe things which belong to the body; as, hunger is a painful appetite; light is pleaſant; reſt is ſweet to the weary limbs.

Propoſitions which are built on this evidence, may be named ſenſible propoſitions, or the dictates of ſenſe.

II. As we learn what belongs to the body by the evidence of ſenſe, ſo we learn what belongs to the ſoul by an inward conſciouſneſs, which may be called a ſort of internal feeling or ſpiritual ſenſation of what paſſes in the mind; as, I think before I ſpeak; I deſire large

knowledge; I ſuſpect my own practice; I ſtudied hard to day; my conſcience bears witneſs of my ſincerity: my ſoul hates vain thoughts; fear is an uneaſy paſſion; long meditation on one thing is tireſome.

Thus it appears that we obtain the knowledge of a multitude of propoſitions, as well as of ſingle ideas, by thoſe two principles which Mr Locke calls ſenſation and reflection: one of them is a ſort of conſciouſneſs of what affects the body, and the other is a conſciouſneſs of what paſſes in the mind.

Propoſitions which are built on this internal conſciouſneſs, have yet no particular or diſtinguiſhing name aſſigned to them.

III. *Intelligence* relates chiefly to thoſe abſtracted propoſitions which carry their own evidence with them, and admit no doubt about them. Our perception of this ſelf-evidence in any propoſition is called intelligence. It is our knowledge of thoſe firſt principles of truth which are (as it were) wrought into the very nature and make of our mind: they are ſo evident in themſelves to every man who attends to them, that they need no proof. It is the prerogative and peculiar excellence of theſe propoſitions, that they can ſcarce ever be proved or denied: they cannot eaſily be proved, becauſe there is nothing ſuppoſed to be more clear or certain, from which an argument may be drawn to prove them. They cannot well be denied, becauſe their own evidence is ſo bright and convincing, that aſſoon as the terms are underſtood the mind neceſſarily aſſents; ſuch are theſe, whatſoever acteth hath a being; nothing has no properties; a part is leſs than the whole; nothing can be the cauſe of itſelf.

Theſe propoſitions are called axioms, or maxims, or firſt principles, theſe are the very foundations of all improved knowledge and reaſonings, and on this account theſe have been thought to be innate propoſitions, or truths born with us.

Some ſuppoſe that a great part of the knowledge of angels and human ſouls in the ſeparate ſtate is obtained in this manner, (viz.) by ſuch an immediate view of things in their own nature, which is called intuition.

IV. *Reaſoning* is the next ſort of evidence, and that

is when one truth is inferred or drawn from others natural and juſt methods of argument: as, if there much light at midnight, I infer, it proceeds from t moon becauſe the ſun is under the earth*. If I ſee cottage in a foreſt, I conclude ſome man has been the and built it. Or when I ſurvey the heavens and earth this gives evidence to my reaſon, that there is a God who made them.

The propoſitions which I believe upon this kind of evidence, are called concluſions, or rational truths, and the knowledge that we gain this way is properly called ſcience.

Yet let it be noted, that the word ſcience is uſually applied to a whole body of regular or methodical obſervations or propoſitions which learned men have formed concerning any ſubject of ſpeculation, deriving one truth from another by a train of arguments. If this knowledge chiefly directs our practice, it is uſually called an art. And this is the moſt remarkable diſtinction between an art and a ſcience, (viz.) the one refers chiefly to practice, the other to ſpeculation. Natural philoſophy, or phyſic, and ontology, are ſciences; logic and rhetoric are called arts; but mathematics include both art and ſcience; for they have much of ſpeculation, and much of practice in them.

Obſerve here, that when the evidence of a propoſition derived from ſenſe, conſciouſneſs, intelligence, or reaſon is firm and indubitable, it produces ſuch aſſent as we call a natural certainty.

V. When we derive the evidence of any propoſition from the teſtimony of others, it is called the evidence of faith; and this is a large part of our knowledge. Ten thouſand things there are which we believe merely upon the authority or credit of thoſe who have ſpoken or written of them. It is by this evidence that we know there is ſuch a country as China, and there was ſuch a man as Cicero who dwelt in Rome. It is by this that moſt of the tranſactions in human life are managed: we know our parents and our kindred by this

* Note. Since this book was written, we have ſo many appearances he aurora borealis as reduces this inference only to a probability.

means, we know the perſons and laws of our preſent governors, as well as things that are at a vaſt diſtance from us in foreign nations, or in ancient ages.

According as the perſons that inform us of any thing are many or few, or more or leſs wiſe, and faithful, and credible, ſo our faith is more or leſs firm or wavering, and the proposition believed is either certain or doubtful; but in matters of faith, an exceeding great probability is called a moral certainty.

Faith is generally diſtinguiſhed into divine and human, not with regard to the propositions that are believed, but with regard to the teſtimony upon which we believe them. When God reveals any thing to us, this gives us the evidence of divine faith; but what man only acquaints us with, produces a human faith in us; the one, being built upon the word of man, ariſes but to moral certainty; but the other being founded on the word of God, ariſes to an abſolute and infallible aſſurance, ſo far as we underſtand the meaning of this word This is called ſupernatural certainty.

Propoſitions which we believe upon the evidence of human teſtimony, are called narratives, relations, reports, hiſtorical obſervations, *&c.* but ſuch as are built on divine teſtimony, are termed, matters of revelation; and if they are of great importance in religion, they are called articles of faith.

There are ſome propoſitions or parts of knowledge, which are ſaid to be derived from obſervation and experience, that is experience in ourſelves, and the obſervations we have made on other perſons or things; but theſe are made up of ſome of the former ſprings of knowledge joined together, *(viz.)* ſenſe, conſciouſneſs, reaſon, faith, *&c.* and therefore are not reckoned a diſtinct kind of evidence.

VI. *Inſpiration* is a ſort of evidence diſtinct from all the former, and that is when ſuch an overpowering impreſſion of any propoſitions is made upon the mind by God himſelf, that gives a convincing and indubitable evidence of the truth and divinity of it; ſo were the prophets and the apoſtles inſpired.*

* Note here, I ſpeak chiefly of the higheſt kind of inſpiration.

Sometimes God may have been pleaſed to make uſe of the outward ſenſes, or the inward workings of the imagination, of dreams, apparitions, viſions and voices, or reaſoning, or perhaps human narration, to convey divine truths to the mind of the prophet; but none of theſe would be ſufficient to deſerve the name of *inſpiration*, without a ſuperior or divine light and power attending them.

This ſort of evidence is alſo very diſtinct from what we uſually call divine faith; for every common chriſtian exerciſes divine faith when he believes any propoſition which God has revealed in the bible upon this account, becauſe God has ſaid it, though it was by a train of reaſonings that he was led to believe that this is the word of God: whereas in the caſe of inſpiration, the prophet not only exerciſes divine faith, in believing what God reveals, but he is under a ſuperior heavenly impreſſion, light and evidence, whereby he is aſſured that God reveals it. This is the moſt eminent kind of ſupernatural certainty.

Though perſons might be aſſured of their own inſpiration by ſome peculiar and inexpreſſible conſciouſneſs of this divine inſpiration and evidence in their own ſpirits, yet it is hard to make out this inſpiration to others, and to convince them of it, except by ſome antecedent or conſequent prophecies or miracles, or ſome public appearances more than human.

The propoſitions which are attained by this ſort of evidence are called inſpired truths. This is divine revelation at firſt hand, and the dictates of God in an immediate manner, of which theological writers diſcourſe at large, but ſince it belongs only to a few favourites of heaven to be inſpired, and not the bulk of mankind, it is not neceſſary to ſpeak more of it in a treatiſe of logic, which is deſigned for the general improvement of human reaſon.

The various kinds of evidence upon which we believe any propoſition, afford us theſe three remarks:

I. *Remark.* The ſame propoſition may be known to us by different kinds of evidence: that the whole is bigger than a part is known by our ſenſes, and it is

known by the ſelf-evidence of the thing to our mind. That God created the heavens and the earth is known to us by reaſon, and is known alſo by divine teſtimony or faith.

II. *Remark.* Among thoſe various kinds of evidence, ſome are generally ſtronger than others in their own nature, and give a better ground for certainty. Inward conſciouſneſs and intelligence, as well as divine faith and inſpiration, uſually carry much more force with them than ſenſe or human faith, which are often fallible; though there are inſtances wherein human faith, ſenſe and reaſoning lay a foundation alſo for complete aſſurance, and leave no room for doubt.

Reaſon in its own nature would always lead us into the truth in matters within its compaſs, if it were uſed aright, or it would require us to ſuſpend our judgment where there is want of evidence. But it is our ſloth, precipitancy, ſenſe, paſſion, and many other things that lead our reaſon aſtray in this degenerate and imperfect eſtate: hence it comes to paſs that we are guilty of ſo many errors in reaſoning, eſpecially about divine things, becauſe our reaſon either is buſy to enquire, and reſolved to determine about matters that are above our preſent reach; or becauſe we mingle many prejudices and ſecret influences of ſenſe, fancy, paſſion, inclination, *&c.* with our exerciſes of reaſon, and judge and determine according to theſe irregular influences.

Divine faith would never admit of any controverſies or doubtings, if we were but aſſured that God had ſpoken, and that we rightly underſtood his meaning.

III. *Remark.* The greateſt evidence and certainty of any propoſition does not depend upon the variety of the ways or kinds of evidence, whereby it is known, but rather upon the ſtrength and degree of evidence, and the clearneſs of that light in or by which it appears to the mind. For a propoſition that is known only one way may be much more certain, and have ſtronger evidence than another that is ſuppoſed to be known many ways. Therefore theſe propoſitions, nothing has no properties, nothing cannot make itſelf, which are known only by intelligence, are much ſurer and truer than this propoſition, the rainbow has real and inherent co-

lours in it, or than this, the ſun rolls round the earth; though we ſeem to know both theſe laſt by our ſenſes, and by the common teſtimony of our neighbours. So any propoſition that is clearly evident to our conſciouſneſs of divine faith, is much more certain to us than a thouſand others that have only the evidence of feeble and obſcure ſenſations, of more probable reaſonings and doubtful arguments, or the witneſs of fallible men, or even though all theſe ſhould join together.

CHAP. III.

THE SPRINGS OF FALSE JUDGMENT, OR THE DOCTRINE OF PREJUDICES.

INTRODUCTION.

IN the end of the foregoing chapter we have ſurveyed the ſeveral ſorts of evidence, on which we build our aſſent to propoſitions. Theſe are indeed the general grounds upon which we form our judgments concerning things. What remains in this ſecond part of logic is to point out the ſeveral ſprings and cauſes of our miſtakes in judging, and to lay down ſome rules by which we ſhould conduct ourſelves in paſſing a judgment of every thing that is propoſed to us.

I confeſs many things which will be mentioned in theſe following chapters might be as well referred to the third part of logic, where we ſhall treat of reaſoning and argument; for moſt of our falſe judgments ſeem to include a ſecret bad reaſoning in them; and while we ſhew the ſprings of error, and the rules of true judgment, we do at the ſame time diſcover which arguments are fallacious, which reaſonings are weak, and which are juſt and ſtrong. Yet ſince this is uſually called a judging ill, or judging well, I think we may, without any impropriety, treat of it here; and this will lay a ſurer foundation for all ſorts of ratiocination and argument.

Raſh judgments are called prejudices, and ſo are the ſprings of them. This word in common life ſignifies an ill opinion which we have conceived of ſome other perſon, or ſome injury done to him. But when we uſe the word in matters of ſcience, it ſignifies a judgment that is formed concerning any perſon or thing before ſufficient examination; and generally we ſuppoſe it to mean a falſe judgment or miſtake: at leaſt, it is an opinion taken up without ſolid reaſon for it, or an aſſent given to a propoſition before we have juſt evidence of the truth of it, though the thing itſelf may happen to be true.

Sometimes theſe raſh judgments are called prepoſſeſſions, whereby is meant, that ſome particular opinion has poſſeſſed the mind, and engaged the aſſent without ſufficient ſearch or evidence of the truth of it.

There is a vaſt variety of theſe prejudices and prepoſſeſſions which attend mankind in every age and condition of life; they lay the foundations of many an error, and many an unhappy practice, both in the affairs of religion, and in our civil concernments; as well as in matters of learning. It is neceſſary for a man who purſues truth to inquire into theſe ſprings of error, that as far as poſſible he may rid himſelf of old prejudices, and watch hourly againſt new ones.

The number of them is ſo great, and they are ſo interwoven with each other, as well as with the powers of human nature, that it is ſometimes hard to diſtinguiſh them apart; yet, for method's ſake, we ſhall reduce them to theſe four general heads, (viz.) prejudices ariſing from things, or from words, from ourſelves, or from other perſons; and after the deſcription of each prejudice, we ſhall propoſe one or more ways of curing it.

SECT. I.

Prejudices ariſing from Things.

THE firſt ſort of prejudices are thoſe which ariſe from the things themſelves about which we judge.

But here let it be obſerved that there is nothing in the nature of things that will neceſſarily lead us into error, if we do but uſe our reaſon aright, and withhold our judgment till there appear ſufficient evidence of them. But ſince we are ſo unhappily prone to take advantage of every doubtful appearance and circumſtance of things, to form a wrong judgment and plunge ourſelves into miſtake, therefore it is proper to conſider what there is in the things themſelves that may occaſion our errors.

I. *The obſcurity of ſome truths, and the difficulty of ſearching them out,* is one occaſion of raſh and miſtaken judgment.

Some truths are difficult, becauſe they lie remote from the firſt principles of knowledge, and want a long chain of argument to come at them: ſuch are many of the deep things of algebra and geometry, and ſome of the theorems and problems of moſt parts of the mathematics. Many things alſo in natural philoſophy are dark and intricate upon this account, becauſe we cannot come at any certain knowledge of them without the labour of many and difficult, as well as chargeable experiments.

There are other truths which have great darkneſs upon them, becauſe we have no proper means or mediums to come at the knowledge of them. Though in our age we have found out many of the deep things of nature by the aſſiſtance of glaſſes and other inſtruments; yet we are not hitherto arrived at any ſufficient meaſters to diſcover the ſhape of thoſe little particles of matter which diſtinguiſh the various ſapours, odours, and colours of bodies; nor to find what ſort of atoms compoſe liquids or ſolids, and diſtinguiſh *wood*, *minerals*, *metals*, *glaſs*, *ſtone*, &c. There is a darkneſs alſo lies upon the actions of the intellectual or angelical world; their manners of ſubſiſtence and agency, the power of ſpirits to move bodies, and the union of our ſouls with this animal body of ours, are much unknown to us on this account.

Now in many of theſe caſes, a great part of mankind is not content to be entirely ignorant; but they,

rather chuſe to form raſh and haſty judgment, to gueſs at things without juſt evidence, to believe ſomething concerning them before they can know them, and thereby they fall into error.

This ſort of prejudice, as well as moſt others, is cured by patience and diligence in inquiry and reaſoning, and a ſuſpenſion of judgment, till we have attained ſome proper mediums of knowledge, and till we ſee ſufficient evidence of the truth.

II. *The appearance of things in a diſguiſe*, is another ſpring of prejudice or raſh judgment. The outſide of things which firſt ſtrikes us, is oftentimes different from their inward nature, and we are tempted to judge ſuddenly according to outward appearances. If a picture is daubed with many bright and glaring colours, the vulgar eye admires it as an excellent piece; whereas the ſame perſon judges very contemptuouſly of ſome admirable deſign ſketched out only with a black pencil on a coarſe paper, though by the hand of Raphael. So the ſcholar ſpies the name of a new book in public news-papers, he is charmed with the title, he purchaſes, he reads with huge expectations, and finds it all traſh and impertinence: this is a prejudice derived from the appearance: we are too ready to judge that volume valuable which had ſo good a frontiſpiece. The large head of encomiums and ſwelling words of aſſurance that are beſtowed on quack-medicines in public advertiſements tempt many a reader to judge them infallible, and to uſe the pills or the plaiſter with vaſt hope, and frequent diſappointment.

We are attempted to form our judgment of perſons as well as things by theſe outward appearances. Where there is wealth, equipage and ſplendor we are ready to call that man happy, but we ſee not the vexing diſquietudes of his ſoul: and when we ſpy a perſon in ragged garments, we form a deſpicable opinion of him too ſuddenly: we can hardly think him either happy or wiſe, our judgment is ſo ſtrangely biaſſed by outward and ſenſible things. It was through the power of this prejudice that the Jews rejected our bleſſed Saviour: they could not ſuffer themſelves to believe that the man

who appeared as the ſon of a carpenter, was alſo the ſon of God. And becauſe St. Paul was of a little ſtature, a mean preſence, and his voice contemptible, ſome of the Corinthians were tempted to doubt whether he was inſpired or no.

This prejudice is cured by a longer acquaintance with the world, and a juſt obſervation that things are ſometimes better and ſometimes worſe than they appear to be. We ought therefore to reſtrain our exceſſive forwardneſs to form our opinion of perſons or things before we have opportunity to ſearch into them more perfectly. Remember that a grey beard does not make a philoſopher; all is not gold that gliſters; and a rough diamond may be worth an immenſe ſum.

III. *A mixture of different qualities in the ſame thing*, is another temptation to judge amiſs. We are ready to be carried away by that quality which ſtrikes the firſt or the ſtrongeſt impreſſions upon us, and we judge of the whole object according to that quality, regardleſs of all the reſt: or ſometimes we colour over all the other qualities with that one tincture, whether it be bad or good.

When we have juſt reaſon to admire a man for his virtues, we are ſometimes inclined not only to neglect his weakneſſes, but even to put a good colour upon them, and to think them amiable. When we read a book that has many excellent truths in it, and divine ſentiments, we are tempted to approve not only that whole book, but even all the writings of that author. When a poet, an orator, or a painter, has performed admirably in ſeveral illuſtrious pieces, we ſometimes alſo admire his very errors, we miſtake his blunders for beauties, and ſo ignorantly fond as to copy after them.

It is this prejudice that has rendered ſo many great ſcholars perfect bigots, and inclined them to defend Homer or Horace, Livy or Cicero, in all their miſtakes, and vindicate all the follies of their favourite author. It is this that tempts ſome great writers to ſupport the ſayings of almoſt all the ancient fathers of the church, and admire them in their very reveries.

On the other hand, if an author has profeſſed heretical ſentiments in religion, we throw our ſcorn upon every thing he writes, we deſpiſe even his critical or mathematical learning, and will hardly allow him common ſenſe. If a poem has ſome blemiſhes in it, there is a ſet of falſe critics who decry it univerſally, and will allow no beauties there.

This ſort of prejudice is relieved by learning to diſtinguiſh things well, and not to judge in the lump. There is ſcarce any thing in the world of nature or art, in the world of morality or religion, that is perfectly uniform. There is a mixture of wiſdom and folly, vice and virtue, good and evil, both in men and things. We ſhould remember that ſome perſons have great wit, and little judgment; others are judicious, but not witty. Some are good humoured without compliment; others have all the formalities of complaiſance, but no good humour. We ought to know that one man may be vicious and learned, while another has virtue without learning. That many a man thinks admirably well who has a poor utterance; while others have a charming manner of ſpeech, but their thoughts are trifling and impertinent. Some are good neighbours, and courteous and charitable toward men, who have no piety toward God; others are truly religious, but of moroſe natural tempers. Some excellent ſayings are found in very ſilly books, and ſome ſilly thoughts appear in books of value. We ſhould neither praiſe nor diſpraiſe by wholeſale, but ſeparate the good from the evil, and judge of them apart; the accuracy of a good judgment conſiſts much in making ſuch diſtinctions.

Yet let it be noted too, that in common diſcourſe we uſually denominate perſons and things according to the major part of their character. He is to be called a wiſe man who has but few follies: he is a good philoſopher who knows much of nature, and for the moſt part reaſons well in matters of human ſcience: and that book ſhould be eſteemed well written, which has much more of good ſenſe in it than it has of impertinence.

IV. Though a thing be uniform in its own nature, yet the different lights in which it may be placed, and the different views in which it appears to us, will be

ready to excite in us miſtaken judgments concerning it. Let an erect cone be placed in a horizontal plane, at a great diſtance from the eye, and it appears a plain triangle; but we ſhall judge that very cone to be nothing but a flat circle, if its baſe be obverted towards us. Set a common round plate a little obliquely before our eyes afar off, and we ſhall think it an oval figure; but if the very edge of it be turned towards us, we ſhall take it for a ſtrait line. So when we view the ſeveral folds of a changeable ſilk, we pronounce this part red, and that yellow, becauſe of its different poſition to the light, though the ſilk laid ſmooth in one light appears all of one colour.

When we ſurvey the miſeries of mankind, and think of the ſorrows of millions, both on earth and in *hell*, the divine government has a terrible aſpect, and we may be tempted to think hardly even of God himſelf: but if we view the profuſion of his bounty and grace amongſt his creatures on earth, or the happy ſpirits in heaven, we ſhall have ſo exalted an idea of his goodneſs as to forget his vengeance. Some men dwell entirely upon the promiſes of his goſpel, and think him all mercy: others, under a melancholy frame, dwell upon his terrors and his threatnings, and are overwhelmed with the thought of his ſeverity and vengeance, as though there were no mercy in him.

The true method of delivering ourſelves from this prejudice is to view a thing on all ſides, to compare all the various appearances of the ſame thing with one another, and let each of them have its full weight in the balance of our judgment, before we fully determine our opinion. It was by this means that the modern aſtronomers came to find out that the planet Saturn hath a flat broad circle round its globe, which is called its ring, by obſerving the different appearances as a narrow or a broader oval, or as it ſometimes ſeems to be a ſtrait line, in the different parts of its twenty-nine years revolution through the ecliptic. And if we take the ſame juſt and religious ſurvey of the great and bleſſed God in all the diſcoveries of his vengeance and his mercy, we ſhall at laſt conclude him to be both juſt and good.

V. *The cauſal aſſociation of many of our ideas*, becomes the ſpring of another prejudice or raſh judgment, to which we are ſometimes expoſed. If in our younger years we have taken medicines that have been nauſeous, when any medicine whatſoever is afterward propoſed to us under ſickneſs, we immediately judge it nauſeous: our fancy has ſo cloſely joined theſe ideas together, that we know not how to ſeparate them: then the ſtomach feels the diſguſt, and perhaps refuſes the only drug that can preſerve life. So a child who has been let blood joins the ideas of pain and the ſurgeon together, that he hates the ſight of the ſurgeon, becauſe he thinks of his pain: or if he has drunk a bitter potion, he conceives a bitter idea of the cup which held it, and will drink nothing out of that cup.

It is for the ſame reaſon that the bulk of the common people are ſo ſuperſtitiouſly fond of the Pſalms tranſlated by Hopkins and Sternhold, and think them ſacred and divine, becauſe they have been now for more than an hundred years bound up in the ſame covers with our bibles.

The beſt relief againſt this prejudice of aſſociation, is to conſider, whether there be any natural and neceſſary connection between thoſe ideas which fancy, cuſtom, or chance hath thus joined together: and if nature has not joined them, let our judgment correct the folly of our imagination, and ſeparate thoſe ideas again.

SECT. II.

Prejudices ariſing from Words.

OUR ideas and words are ſo linked together, that while we judge of things according to words, we are led into ſeveral miſtakes. Theſe may be diſtributed under two general heads, (viz.) ſuch as ariſe from ſingle words or phraſes, or ſuch as ariſe from words joined in ſpeech, and compoſing a diſcourſe.

I. The moſt eminent and remarkable errors of the firſt kind are theſe three. (1.) When our words are inſignificant, and have no ideas; as when the myſtical divines talk of the prayer of ſilence, the ſupernatural and paſſive night of the ſoul, the vacuity of powers, the ſuſpenſion of all thoughts; or (2.) when our words are equivocal, and ſignify two or more ideas, as the words law, light, fleſh, ſpirit, righteouſneſs, and many other terms in ſcripture; or (3.) when two or three words are ſynonymous, and ſignify one idea, as regeneration and new creation in the new teſtament; both which mean only a change of the heart from ſin to holineſs; or as the elector of Cologn and biſhop of Cologn are two titles of the ſame man.

Theſe kinds of phraſes are the occaſions of various miſtakes: but none ſo unhappy as thoſe in theology: for both words without ideas, as well as ſynonymous and equivocal words have been uſed and abuſed by the humours, paſſions, intereſts, or by the real ignorance and weakneſs of men, to beget terrible conteſts among chriſtians.

But to relieve us under all thoſe dangers, and to remove thoſe ſorts of prejudices which ariſe from ſingle words or phraſes, I muſt remit the reader to part I. chap. 4. where I have treated about words, and to thoſe directions which I have given concerning the definition of names, part I. chap. 6. ſect 3.

II. There is another ſort of falſe judgments or miſtakes which we are expoſed to by words; and that is when they are joined in ſpeech, and compoſe a diſcourſe; and here we are in danger two ways.

The one is when a man writes good ſenſe, or ſpeaks much to the purpoſe, but he has not a happy and engaging manner of expreſſion. Perhaps he uſes coarſe and vulgar words, or old, obſolete, and unfaſhionable language, or terms and phraſes that are foreign, latinized, ſcholaſtic, very uncommon, and hard to be underſtood: and this is ſtill worſe, if his ſentences are long and intricate, or the ſound of them harſh and grating to the ear. All theſe indeed are defects in ſtyle, and lead ſome nice and unthinking hearers or readers into an ill opinion of all that ſuch a perſon ſpeaks or writes.

Many an excellent diſcourſe of our forefathers has had abundance of contempt caſt upon it by our modern pretenders to ſenſe, for want of their diſtinguiſhing between the language and the ideas.

On the other hand, when a man of eloquence ſpeaks or writes upon any ſubject, we are too ready to run into his ſentiments, being ſweetly and inſenſibly drawn by the ſmoothneſs of his harangue, and the pathetic power of his language. Rhetoric will varniſh every error ſo that it ſhall appear in the dreſs of truth, and put ſuch ornaments upon vice, as to make it look like virtue: it is an art of wondrous and extenſive influence: it often conceals, obſcures or overwhelms the truth, and places ſometimes a groſs falſhood in a moſt alluring light. The decency of action, the muſic of the voice, the harmony of the periods, the beauty of the ſtile, and all the engaging airs of the ſpeaker, have often charmed the hearers into error, and perſuaded them to approve whatſoever is propoſed in ſo agreeable a manner. A large aſſembly ſtands expoſed at once to the power of theſe prejudices, and imbibes them all. So Cicero and Demoſthenes made the Romans and the Athenians believe almoſt whatſoever they pleaſed.

The beſt defence againſt both theſe dangers, is to learn the ſkill (as much as poſſible) of ſeparating our thoughts and ideas from words and phraſes, to judge of the things in their own natures, and in their natural or juſt relation to one another, abſtracted from the uſe of language, and to maintain a ſteady and obſtinate reſolution, to hearken to nothing but truth, in whatſoever ſtyle or dreſs it appears.

Then we ſhall hear a ſermon of pious and juſt ſentiments with eſteem and reverence, though the preacher has but an unpoliſhed ſtyle, and many defects in the manner of his delivery. Then we ſhall neglect and diſregard all the flattering inſinuations whereby the orator would make way for his own ſentiments to take poſſeſſion of our ſouls, if he has not ſolid and inſtructive ſenſe equal to his language. Oratory is a happy talent, when it is rightly employed to excite the paſſions to the practice of virtue and piety; but to ſpeak properly, this art hath nothing to do in the ſearch after truth.

SECT III.

Prejudices arising from ourselves.

NEITHER words nor things would so often lead us astray from truth, if we had not within ourselves such springs of error as these that follow.

I. Many errors are derived from our weakness of reason, and incapacity to judge of things in our infant state. These are called the prejudices of infancy. We frame early mistakes about the common objects which surround us, and the common affairs of life: we fancy the nurse is our best friend, because children receive from their nurses their food and other conveniences of life. We judge that books are very unpleasant things, because perhaps we have been driven to them by the scourge. We judge also that the sky touches the distant hills, because we cannot inform ourselves better in childhood. We believe the stars are not risen till the sun is set, because we never see them by day. But some of these errors, may seem to be derived from the next spring.

The way to cure the prejudices of infancy is to distinguish, as far as we can, which are those opinions which we framed in perfect childhood, to remember that at that time our reason was incapable of forming a right judgment, and to bring these propositions again to be examined at the bar of mature reason.

II. Our senses give us many a false information of things, and tempt us to judge amiss. This is called the prejudice of sense, as when we suppose the sun and moon to be flat bodies, and to be but a few inches broad, because they appear so to the eye. Sense inclines us to judge that air has no weight, because we do not feel it press heavy upon us; and we judge also by our senses that cold and heat, sweet and sour, red and blue, &c. are such real properties in the objects themselves, and exactly like those sensations which they excite in us.

Note. Thoſe miſtakes of this ſort which all mankind drop and loſe in their advancing age, are called mere prejudices of infancy, but thoſe which abide with the vulgar part of the world, and generally with all men, till learning and philoſophy cure them, more properly attain the name of prejudices of ſenſe.

Theſe prejudices are to be removed ſeveral ways. (1.) By the aſſiſtance of one ſenſe we cure the miſtakes of another, as when a ſtick thruſt into the water ſeems crooked, we are prevented from judging it to be really ſo in itſelf, for when we take it out of the water, both our ſight and our feeling agree and determine it to be ſtrait. (2.) The exerciſe of our reaſon, and an application to mathematical and philoſophical ſtudies, cures many other prejudices of ſenſe, both with relation to the heavenly and earthly bodies. (3.) We ſhould remember that our ſenſes have often deceived us in various inſtances, that they give but a confuſed and imperfect repreſentation of things in many caſes, that they often repreſent falſly thoſe very objects to which they ſeem to be ſuited, ſuch as the ſhape, motion, ſize and ſituation of groſs bodies, if they are but placed at a diſtance from us; and as for the minute particles of which bodies are compoſed, our ſenſes cannot diſtinguiſh them, (4.) We ſhould remember alſo, that one prime and original deſign of our ſenſes, is to inform us what various relations the bodies that are round about us bear to our own animal body, and to give us notice what is pleaſant and uſeful, or what is painful and injurious to us; but they are not ſufficient of themſelves to lead us into a philoſophical acquaintance with the inward nature of things. It muſt be confeſſed it is by the aſſiſtance of the eye, and the ear eſpecially (which are called the ſenſes of diſcipline) that our minds are furniſhed with various parts of knowledge, by reading, hearing, and obſerving things divine and human; yet reaſon ought always to accompany the exerciſe of our ſenſes whenever we would form a juſt judgment of things propoſed to our enquiry.

Here it is proper to obſerve alſo, that as the weakneſs of reaſon in our infancy, and the diſtates of our ſenſes, ſometimes in advancing years, lead the wiſer

part of mankind aſtray from truth; ſo the meaner parts of our ſpecies, perſons whoſe genius is very low, whoſe judgment is always weak, who are ever indulging the dictates of ſenſe and humour, are but children of a larger ſize, they ſtand expoſed to everlaſting miſtakes in life, and live and die in the midſt of prejudices.

III. *Imagination* is another fruitful ſpring of falſe judgments. Our imagination is nothing elſe but the various appearances of our ſenſible ideas in the brain, where the ſoul frequently works in uniting, disjoining, multiplying, magnifying, diminiſhing and altering the ſeveral ſhapes, colours, ſounds, motions, words and things that have been communicated to us by the outward organs of ſenſe. It is no wonder therefore if fancy leads us into many miſtakes, for it is but ſenſe at ſecond-hand. Whatever is ſtrongly impreſſed upon the imagination, ſome perſons believe to be true. Some will chooſe a particular number in a lottery, or lay a larger wager on a ſingle chance of a dye, and doubt not of ſucceſs, becauſe their fancy feels ſo powerful an impreſſion, and aſſures them it will be proſperous. A thouſand pretended prophecies and inſpirations and all the freaks of enthuſiaſm have been derived from this ſpring. Dreams are nothing elſe but the deceptions of fancy: a delirium is but a ſhort wildneſs of the imagination; and a ſettled irregularity of fancy is diſtraction and madneſs.

One way to gain a victory over this unruly faculty, is to ſet a watch upon it perpetually, and to bridle it in all its extravagancies; never to believe any thing merely becauſe fancy dictates it, any more than I would believe a midnight-dream, nor to truſt fancy any farther than it is attended with ſevere reaſon. It is a very uſeful and entertaining power of human nature in matters of illuſtration, perſuaſion, oratory, poeſy, wit, converſation, &c. but in the calm inquiry after truth and final judgment of things, fancy ſhould retire, and ſtand aſide, unleſs it be called in to explain or illuſtrate a difficult point by a ſimilitude.

Another method of deliverance from theſe prejudices of fancy, is to compare the ideas that ariſe in our imaginations with the real nature of things, as often as we

have occaſion to judge concerning them; and let calm and ſedate reaſon govern and determine our opinions, though fancy ſhould ſhew never ſo great a reluctance. Fancy is the inferior faculty, and it ought to obey.

IV. *The various paſſions or affections of the mind* are numerous and endleſs ſprings of prejudice. They diſguiſe every object they converſe with, and put their own colours upon it, and thus lead the judgment aſtray from truth. It is love that makes the mother think her own child the faireſt, and will ſometimes perſuade us that a blemiſh is a beauty. Hope and deſire make an hour of delay ſeem as long as two or three hours; hope inclines us to think there is nothing too difficult to be attempted; deſpair tells us that a brave attempt is mere raſhneſs, and that every difficulty is unſurmountable. Fear makes us imagine that a buſh ſhaken with the wind has ſome ſavage beaſt in it, and multiplies the dangers that attend our path: but ſtill there is a more unhappy effect of fear when it keeps millions of ſouls in ſlavery to the errors of an eſtabliſhed religion: what could perſuade the wiſe men and philoſophers of a popiſh country to believe the groſſeſt abſurdities of the Roman church, but the fear of torture or death, the galleys or the inquiſition? ſorrow and melancholy tempt us to think our circumſtances much more diſmal than they are, that we may have ſome excuſe for mourning: and envy repreſents the condition of our neighbour better than it is, that there might be ſome pretence for her own vexation and uneaſineſs. Anger and wrath and revenge, and all thoſe hateful paſſions excite in us far worſe ideas of men than they deſerve, and perſuade us to believe all that is ill of them. A detail of the evil influence of the affections of the mind upon our judgment would make a large volume.

The cure of theſe prejudices is attained by a conſtant jealouſy of ourſelves, and watchfulneſs over our paſſions, that they may never interpoſe when we are called to paſs a judgment of any thing; and when our affections are warmly engaged, let us abſtain from judging. It would be alſo of great uſe to us to form our deliberate judgments of perſons and things in the calmeſt and ſereneſt hours of life, when the paſſions of nature are

all ſilent, and the mind enjoys its moſt perfect compoſure: and theſe judgments ſo formed ſhould be treaſured up in the mind, that we might have recourſe to them in hours of need. See many more ſentiments and directions relating to this ſubject in my doctrine of the paſſions.

V. The fondneſs we have for SELF, and the relations which other perſons and things have to ourſelves, furniſh us with another long rank of prejudices. This indeed might be reduced to the paſſion of ſelf-love; but it is ſo copious an head that I chooſe to name it as a diſtinct ſpring of falſe judgments. We are generally ready to fancy every thing of our own has ſomething peculiarly valuable in it, when indeed there is no other reaſon, but becauſe it is our own. Were we born among the gardens of Italy, the rocks of Switzerland, or the ice and ſnows of Ruſſia and Sweden, we ſhould imagine peculiar excellencies in our native land. We conceive a good idea of the town and village where we firſt breathed, and think the better of a man for being born near us. We entertain the beſt opinion of the perſons of our own party, and eaſily believe evil reports of perſons of a different ſect or faction. Our own ſex, our kindred, our houſes, and our very names, ſeem to have ſomething good and deſirable in them. We are ready to mingle all theſe with ourſelves, and cannot bear to have others think meanly of them.

So good an opinion we have of our own ſentiments and practices, that it is very difficult to believe what a reprover ſays of our conduct; and we are as ready to aſſent to all the language of flattery. We ſet up our own opinions in religion and philoſophy as the teſts of orthodoxy and truth; and we are prone to judge every practice of other men either a duty or a crime, which we think would be a crime or a duty in us, though their circumſtances are vaſtly different from our own. This humour prevails ſometimes to ſuch a degree, that we would make our own taſte and inclinations the ſtandard by which to judge of every diſh of meat that is ſet upon the table, every book in a library, every employment, ſtudy and buſineſs of life, as well as every recreation.

It is from this evil principle of ſetting up ſelf for a model what other men ought to be, that the antichriſtian ſpirit of impoſition and perſecution had its original: though there is no more reaſon for it than there was for the practice of that tyrant, who having a bed fit for his own ſize was reported to ſtreach men of low ſtature upon the rack, till they were drawn out to the length of his bed; and ſome add alſo, that he cut off the legs, of any whom he found too long for it.

It is alſo from a principle near a-kin to this that we pervert and ſtrain the writings of any venerable authors, and eſpecially the ſacred books of ſcripture, to make them ſpeak our own ſenſe. Through the influence which our own ſchemes or hypotheſis have upon the mind, we ſometimes become ſo ſharp-ſighted as to find theſe ſchemes in thoſe places of ſcripture where the holy writers never thought of them, nor the holy ſpirit intended them. At other times this prejudice brings ſuch a dimneſs upon the ſight that we cannot read any thing that oppoſes our own ſcheme, though it be written as with ſun-beams, and in the plaineſt language; and perhaps we are in danger in ſuch a caſe of winking a little againſt the light.

We ought to bring our minds free, unbiaſſed and teachable to learn our religion from the word of God; but we have generally formed all the leſſer as well as the greater points of religion before-hand, and then we read the prophets and apoſtles, only to pervert them to confirm our own opinions. Were it not for this influence of ſelf, and a bigotry to our own tenets, we could hardly imagine that ſo many ſtrange, abſurd inconſiſtent, wicked, miſchievous, and bloody principles ſhould pretend to ſupport and defend themſelves by the goſpel of Chriſt.

Every learned critic has his own hypotheſis; and if the common text be not favourable to his opinion, a various lection ſhall be made authentic. The text muſt be ſuppoſed to be defective or redundant, and the ſenſe of it ſhall be literal, or metaphorical, according as it beſt ſupports his own ſcheme. Whole chapters or books ſhall be added or left out of the ſacred canon, or be turned into parables by this influence. Luther

knew not well how to reconcile the Epiſtle of St. James to the doctrine of juſtification by faith alone, and ſo he could not allow it to be divine. The Papiſts bring all the Apocrypha into their bible, and ſtamp divinity upon it; for they can fancy purgatory is there, and there find prayers for the dead, But they leave out the ſecond commandment becauſe it forbids the worſhip of images. Others ſuppoſe the Moſaic hiſtory of the creation and the fall of man to be oriental ornaments, or a mere allegory, becauſe the literal ſenſe of thoſe three chapters of Geneſis do not agree with their theories. Even an honeſt plain-hearted and unlearned chriſtian is ready to find ſomething in every chapter of the bible to countenance his own private ſentiments; but he loves thoſe chapters beſt which ſpeak his own opinions plaineſt; this is a prejudice that ſticks very cloſe to our natures; the ſcholar is infeſted with it daily, and the mechanic is not free.

Self has yet a farther and a pernicious influence upon our underſtandings, and is an unhappy guide in the ſearch after truth. When our own inclination or our eaſe, our honour or our profit tempt us to the practice of any thing of ſuſpected lawfulneſs, how do we ſtrain our thoughts to find arguments for it, and perſuade ourſelves it is lawful? We colour over iniquity and ſinful compliance with the names of virtue and innocence, or at leaſt of conſtraint and neceſſity. All the different and oppoſite ſentiments and practiſes of mankind are too much influenced by this mean bribery, and give too juſt occaſion for ſatyrical writers to ſay that ſelf-intereſt governs all mankind.

When the judge had awarded the damages to a perſon into whoſe field a neighbour's oxen had broke it is reported that he reverſed his own ſentence, when he heard that the oxen which had done this miſchief were his own. Whether this be a hiſtory or a parable, it is ſtill a juſt repreſentation of the wretched influence of ſelf to corrupt the judgment.

One way to amend this prejudice is to thruſt ſelf ſo far out of the queſtion, that it may have no manner of influence whenſoever we are called to judge and conſider of the naked nature, truth and juſtice of things. In

matters of equity between man and man, our Saviour has taught us an effectual means of guarding againſt this prejudice, and that is to put my neighbour in the place of myſelf, and myſelf in the place of my neighbour, rather than be bribed by this corrupt principle of ſelf-love to do injury to our neighbours. Thence ariſes that golden rule of dealing with others as we would have others deal with us.

In the judgment of truth and falſehood, right and wrong, good and evil, we ought to conſider that every man has a ſelf as well as we; and that the taſtes, paſſions, inclinations and intereſts of different men are very different, and often contrary, and they dictate contrary things: unleſs therefore all manner of different and contrary propoſitions could be true at once, ſelf can never be a juſt teſt or ſtandard of truth and falſehood, good and evil.

VI. *The tempers, humours, and peculiar terms of the mind*, whether they be natural or acquired, have a great influence upon our judgment, and become the occaſion of many miſtakes. Let us ſurvey a few of them.

(1.) Some perſons are of an eaſy and credulous temper, while others are perpetually diſcovering a ſpirit of contradiction.

The credulous man is ready to receive every thing for truth, that has but a ſhadow of evidence; every new book that he reads, and every ingenious man with whom he converſes, has power enough to draw him into the ſentiments of the ſpeaker or writer. He has ſo much complaiſance in him, or weakneſs of ſoul, that he is ready to reſign his own opinion to the firſt objection which he hears, and to receive any ſentiments of another that are aſſerted with a poſitive air and much aſſurance. Thus he is under a kind of neceſſity through the indulgence of this credulous humour, either to be often changing his opinions or to believe inconſiſtencies.

The man of contradiction is of a contrary humour, for he ſtands ready to oppoſe every thing that is ſaid: he gives a ſlight attention to the reaſons of other men, for an inward ſcornful preſumption that they have no ſtrength

in them. When he reads or hears a diſcourſe different from his own ſentiments, he does not give himſelf leiſure to conſider whether that diſcourſe may be true; but employs all his powers immediately to confute it. Your great diſputers and your men of controverſy are in continual danger of this ſort of prejudice: they contend often for victory, and will maintain whatſoever they have aſſerted, while truth is loſt in the noiſe and tumult of reciprocal contradictions; and it frequently happens, that a debate about opinions is turned into a mutual reproach of perſons.

The prejudice of credulity may in ſome meaſure be cured, by learning to ſet a high value on truth, and by taking more pains to attain it; remembering that truth oftentimes lies dark and deep, and requires us to *dig* for it as hid treaſure; and that falſehood often puts on a fair diſguiſe, and therefore we ſhould not yield up our judgment to every plauſible appearance. It is no part of civility or good breeding to part with truth, but to maintain it with decency and candour.

A ſpirit of contradiction is ſo pedantic and hateful, that a man ſhould take much pains with himſelf to watch againſt every inſtance of it: He ſhould learn ſo much good humour, at leaſt, as never to oppoſe any thing without juſt and ſolid reaſon for it: He ſhould abate ſome degrees of pride and moroſeneſs, which are never-failing ingredients of this ſort of temper, and ſhould ſeek after ſo much honeſty and conſcience as never to contend for conqueſt or triumph; but to review his own reaſons, and to read the arguments of his opponents (if poſſible) with an equal indifferency, and be glad to ſpy truth and to ſubmit to it, though it appear on the oppoſite ſide.

(2.) There is another pair of prejudices derived from two tempers of mind, near a-kin to thoſe I have juſt mentioned; and theſe are the dogmatical and the ſceptical humours, that is, always poſitive, or always doubting.

By what means ſoever the dogmatiſt came by his opinions, whether by his ſenſes, or by his fancy, his education, or his own reading, yet he believes them all with the ſame aſſurance that he does a mathematical

truth; he has ſcarce any mere probabilites that belong to him; every thing with him is certain and infallible; every punctilio in religion is an article of his faith, and he anſwers all manner of objections by a ſovereign contempt.

Perſons of this temper are ſeldom to be convinced of any miſtake: A full aſſurance of their own notions makes all the difficulties of their own ſide vaniſh ſo entirely that they think every point of their belief is written as with ſun-beams, and wonder any one ſhould find a difficulty in it. They are amazed that learned men ſhould make a controverſy of what is to them ſo perſpicuous and indubitable. The loweſt rank of people, both in learned and in vulgar life, is very ſubject to this obſtinacy.

Scepticiſm is a contrary prejudice. The dogmatiſt is ſure of every thing, and the ſceptic believes nothing. Perhaps he has found himſelf often miſtaken in matters of which he thought himſelf well aſſured in his younger days, and therefore he is afraid to give aſſent to any thing again. He ſees ſo much ſhew of reaſon for every opinion, and ſo many objections alſo ariſing againſt every doctrine, that he is ready to throw off the belief of every thing: He renounces at once the purſuit of truth, and contents himſelf to ſay, There is nothing certain. It is well, if through the influence of ſuch a temper, he does not caſt away his religion as well as his philoſophy, and abandon himſelf to a prophane courſe of life, regardleſs of hell and heaven.

Both theſe prejudices laſt mentioned, though they are ſo oppoſite to each other, yet they ariſe from the ſame ſpring, and that is, impatience of ſtudy, and want of diligent attention in the ſearch of truth. The dogmatiſt is in haſte to believe ſomething; he cannot keep himſelf long enough in ſuſpenſe, till ſome bright and convincing evidence appear on one ſide, but throws himſelf caſually into the ſentiments of one party or another, and then he will hear no argument to the contrary. The ſceptic will not take pains to ſearch things to the bottom, but when he ſees difficulties on both ſides, reſolves to believe neither of them. Humility of ſoul, patience in ſtudy, diligence in inquiry, with an

honeſt zeal for truth, would go a great way towards the cure of both theſe follies.

(3.) Another ſort of temper that is very injurious to a right judgment of things, is an inconſiſtent fickle, changeable ſpirit, and a very uneven temper of mind. When ſuch perſons are in one humour, they paſs a judgment of things agreeable to it: when their humour changes, they reverſe their firſt judgment, and embrace a new opinion. They have no ſteadineſs of ſoul: they want firmneſs of mind, ſufficient to eſtabliſh themſelves in any truth, and are ready to change it for the next alluring falſehood that is agreeable to their change of humour. This fickleneſs is ſometimes ſo mingled with their very conſtitution by nature, or by diſtemper of body, that a cloudy day, and a lowring ſky ſhall ſtrongly incline them to form an opinion both of themſelves, and of perſons and things round about them, quite different from what they believe when the ſun ſhines, and the heavens are ſerene.

This ſort of people ought to judge of things and perſons in their moſt ſedate, peaceful, and compoſed hours of life, and reſerve theſe judgments for their conduct at more unhappy ſeaſons.

(4.) Some perſons have a violent and turgid manner both of talking and thinking; whatſoever they judge of, it is always with a tincture of this vanity. They are always in extremes, and pronounce concerning every thing in the ſurperlative. If they think a man to be learned, he is the chief ſcholar of the age: If another has low parts, he is the greateſt blockhead in nature: If they approve any book on divine ſubjects, it is the beſt book in the world next to the bible: If they ſpeak of a ſtorm of rain or hail, it is the moſt terrible ſtorm that fell ſince the creation: And a cold winter day is the coldeſt that ever was known.

But the men of this ſwelling language ought to remember, that nature has ten thouſand moderate things in it, and does not always deal in extremes as they do.

(5.) I think it may be called another ſort of prejudices derived from humour, when ſome men believe a doctrine merely becauſe it is ancient, and has been

long believed; others ſo fond of novelty, that nothing prevails upon their aſſent ſo much as new thoughts and new notions. Again, there are ſome who ſet a high eſteem upon every thing that is foreign and far-fetched; therefore China pictures are admired, how aukward ſo ever: Others value things the more for being of our own native growth, invention or manufacture, and theſe as much deſpiſe foreign things.

Some men of letters and theology will not believe a propoſition even concerning a ſublime ſubject, till every thing myſterious, deep and difficult is cut off from it, though the ſcripture aſſerts it ever ſo plainly; others are ſo fond of a myſtery and things incomprehenſible, that they would ſcarce believe the doctrine of the Trinity, if it could be explained; they incline to that fooliſh rant of one of the ancients, *credo quai impoſſibile eſt*; I believe it becauſe it is impoſſible.

To cure theſe miſtakes remember that neither antique nor novel, foreign nor native, myſterious nor plain, are certain characters either of truth or falſehood.

I might mention various other humours of men that excite in them various prejudices, and lead them into raſh and miſtaken judgments: but theſe are ſufficient for a ſpecimen.

II. There are ſeveral other weakneſſes which belong to human nature, whereby we are led into miſtakes, and indeed are rendered almoſt incapable of paſſing a ſolid judgment in matters of great depth and difficulty. Some have a native obſcurity of perception, (or ſhall I call it a want of natural ſagacity?) whereby they are hindered from attaining clear and diſtinct ideas. Their thoughts always ſeem to have ſomething confuſed and cloudy in them, and therefore they judge in the dark. Some have a defect in memory, and then they are not capable of comparing their preſent ideas with a great variety of others, in order to ſecure themſelves from inconſiſtency in judgment. Others may have a memory large enough, yet they are ſubject to the ſame errors from a narrowneſs of ſoul, and ſuch a fixation and confinement of thought to a few objects, that they ſcarce ever take a ſurvey of things wide enough to judge wiſe-

ly and well, and to ſecure themſelves from all inconſiſtencies.

Though theſe are natural defects and weakneſſes, yet they may in ſome meaſure be relieved by labour, diligence, and a due attention to proper rules.

But among all the cauſes of falſe judgment which are within ourſelves, I ought by no means to leave out that univerſal and original ſpring of error, which we are informed of by the word of God, and that is, the ſin and defection of our firſt parents, whereby all our beſt natural powers both of mind and body are impaired, and rendered very much inferior to what they were in a ſtate of innocence. Our underſtanding is darkened, our memory contracted, our corrupt humours and paſſions are grown predominant, our reaſon enfeebled, and various diſorders attend our conſtitution and animal nature, whereby the mind is ſtrangely impoſed upon in its judgment of things. Nor is there any perfect relief to be expected on earth. There is no hope of ever recovering from theſe maladies, but by a ſincere return to God in the ways of his own appointment, whereby we ſhall be kept ſafe from all dangerous and pernicious errors in matters of religion; and though imperfections and miſtakes will hang about us in this preſent life, as the effects of our original apoſtacy from God, yet we hope for a full deliverance from them when we arrive at heaven.

SECT. IV.

Prejudices ariſing from other perſons.

WERE it not for the ſprings of prejudice that are lurking in ourſelves, we ſhould not be ſubject to ſo many miſtakes from the influence of others: But ſince our nature is ſo ſuſceptive of errors on all ſides, it is fit we ſhould have hints and notice given us, how far other perſons may have power over us, and be-

come the cauſes of our falſe judgments. This might all be caſt into one heap, for they are all near a-kin, and mingle with each other; but for diſtinction ſake let them be called the prejudices of education, of cuſtom, of authority, and ſuch as ariſe from the manner of propoſal.

I. Thoſe with whom our education, is entruſted may lay the firſt foundation of many miſtakes in our younger years. How many fooleries and errors are inſtilled into us by our nurſes, our fellow-children, by ſervants, or unſkilful teachers, which are not only maintained through the following part of our life, but ſometimes have a very unhappy influence upon us! We are taught that there are goblings and bugbears in the dark; our young minds are crowded with the terrible ideas of ghoſts appearing upon every occaſion, or with the pleaſanter tales of fairies dancing at midnight. We learn to propheſy betimes, foretel futurities by good or evil omens, and to preſage approaching death in a family by ravens and little worms, which we therefore call a death-watch. We are taught to know beforehand, for a twelve-month together, which days of the week will be fair or foul, which will be lucky or unlucky; nor is there any thing ſo ſilly, but may be impoſed upon our underſtandings in that early part of life; and theſe ridiculous ſtories abide with us too long, and too far influence the weaker part of mankind.

We chuſe our particular ſect and party in the civil, the religious and the learned life, by the influence of education. In the colleges of learning, ſome are for the nominals, and ſome for the realiſts, in the ſcience of metaphyſics, becauſe their tutors were devoted to theſe parties. The old philoſophy and the new have gained thouſands of partizans the ſame way: and every religion has its infant votaries, who are born, live and die in the ſame faith, without examination of any article. The Turks are taught early to believe in Mahomet; the Jews in Moſes; the Heathens worſhip a multitude of Gods under the force of their education. And it would be well if there were not millions of chriſtians

who have little more to ſay for their religion, than that they were born and bred up in it. The greateſt part of the Chriſtian world can hardly give any reaſon why they believe the bible to be the word of God, but becauſe they have always believed it, and they were taught ſo from their infancy. As Jews and Turks, and American Heathens believe the moſt monſtrous and incredible ſtories, becauſe they have been trained up amongſt them, as articles of faith; ſo the Papiſts believe their tranſubſtantiation, and make no difficulty of aſſenting to impoſſibilities, ſince it is the current doctrine of their catechiſms. By the ſame means the ſeveral ſects and parties in Chriſtianity believe all the ſtrained interpretations of ſcripture by which they have been taught to ſupport their own tenents: They find nothing difficult in all the abſurd gloſſes and far-fetched ſenſes that are ſometimes put upon the words of the ſacred writers, becauſe their ears have been always accuſtomed to theſe gloſſes; and therefore they ſet ſo ſmooth and eaſy upon their underſtandings, that they know not how to admit the moſt natural and eaſy interpretation in oppoſition to them.

In the ſame manner we are nurſed up in many ſilly and groſs miſtakes about domeſtic affairs, as well as in matters of political concernment. It is upon the ſame ground that children are trained up to be Whigs and Tories betimes; and every one learns the diſtinguiſhing terms of his own party, as the papiſts learn to ſay their prayers in Latin; without any meaning, reaſon, or devotion.

This ſort of prejudice muſt be cured by calling all the principles of our young years to the bar of mature reaſon, that we may judge of the things of nature and political affairs by juſter rules of philoſophy and obſervation: And even the matters of religion muſt be inquired into by reaſon and conſcience, and when theſe have led us to believe ſcripture to be the word of God, then that becomes our ſovereign guide, and reaſon and conſcience muſt ſubmit to receive its dictates.

II. The next prejudice which I ſhall mention is, that which ariſes from the cuſtom or faſhion of thoſe amongſt whom we live. Suppoſe we have freed our-

ſelves from the younger prejudices of our education, yet we are in danger of having our minds turned aſide from truth by the influence of a general cuſtom.

Our opinion of meats and drinks, of garments and forms of ſalutation are influenced much more by cuſtom, than by the eye, the ear or the taſte. Cuſtom prevails over ſenſe itſelf, and therefore no wonder if it prevail over reaſon too. What is it but cuſtom that renders many of the mixtures of food and ſauces elegant in Britain, which would be aukward and nauſeous in China, and indeed were nauſeous to us when we firſt taſted them? What but cuſtom could make thoſe ſalutations polite in Muſcovy, which are ridiculous in France and England? We call all ourſelves indeed the politer nations, but it is we who judge this of ourſelves; and that fancied politeneſs is oftentimes more owing to cuſtom than reaſon. Why are the forms of our preſent garments counted beautiful, and thoſe faſhions of our anceſtors the matter of ſcoff and contempt, which in their day were all decent and genteel? It is cuſtom that forms our opinion of dreſs, and reconciles us by degrees to thoſe habits which at firſt ſeemed very odd and monſtrous. It muſt be granted there are ſome garments and habits which have a natural congruity or incongruity, modeſty or immodeſty, decency or indecency, gaudery or gravity; though for the moſt part there is but little reaſon in theſe affairs: But what little there is of reaſon and natural decency, cuſtom triumphs over it all. It is almoſt impoſſible to perſuade a gay lady that any thing can be decent that is out of faſhion: And it were well if faſhion ſtretched its powers no further than the buſineſs of drapery and the fair ſex.

The methods of our education are governed by cuſtom. It is cuſtom and not reaſon that ſends every boy to learn the Roman poets, and begin a little acquaintance with Greek, before he is bound an apprentice to a ſoap-boiler or leather-ſeller. It is cuſtom alone that teaches us Latin by the rules of a Latin grammar; a tedious and abſurd method! and what is it but cuſtom that has for paſt centuries, confined the brighteſt genuiuſes even of the high rank in the

female world to the only buſineſs of the needle, and ſecluded them moſt unmercifully from the pleaſures of knowledge, and the divine improvements of reaſon? But we begin to break all theſe chains, and reaſon begins to dictate the education of youth. May the growing age be learned and wiſe!

It is by the prejudice ariſing from our own cuſtoms, that we judge of all other civil and religious forms and practices. The rites and ceremonies of war and peace in other nations, the forms of weddings and funerals, the ſeveral ranks of magiſtracy, the trades and employments of both ſexes, the public and the domeſtic affairs of life, and almoſt every thing of foreign cuſtoms, is judged irregular. It is all imagined to be unreaſonable or unnatural, by thoſe who have no other rule to judge of nature and reaſon, but the cuſtoms of their own country, or the little town where they dwell. Cuſtom is called a ſecond nature, but we often miſtake it for nature itſelf.

Beſides all this, there is a faſhion in opinions, there is a faſhion in writing and printing, in ſtyle and language. In our day it is the vogue of the nation, that parliaments may ſettle the ſucceſſion of the crown, and that a people can make a king; in the laſt age this was a doctrine a-kin to treaſon. Citations from the Latin poets were an embelliſhment of ſtyle in the laſt century, and whole pages in that day were covered with them; it is now forbidden by cuſtom and expoſed by the name of pedantry; whereas in truth both theſe are extremes. Sometimes our printed books ſhall abound in capitals and ſometimes reject them all. Now we deal much in eſſays, and moſt unreaſonably deſpiſe ſyſtematic learning, whereas our fathers had a juſt value for regularity and ſyſtems; then folio's and quarto's were the faſhionable ſizes, as volumes in octavo are now. We are ever ready to run into extremes, and yet cuſtom ſtill perſuades us that reaſon and nature are on our ſide.

This buſineſs of the faſhions has a moſt powerful influence on our judgments; for it employs thoſe two ſtrong engines of fear and ſhame to operate upon our underſtandings with unhappy ſucceſs. We are aſham-

ed to believe or profeſs an unfaſhionable opinion in philoſophy, and a cowardly ſoul dares not ſo much as indulge a thought contrary to the eſtabliſhed or faſhionable faith, nor act in oppoſition to cuſtom, though it be according to the dictates of reaſon.

I confeſs, there is a reſpect due to mankind, which ſhould incline even the wiſeſt of men to follow the innocent cuſtoms of their country in outward practices of the civil life, and in ſome meaſure to ſubmit to faſhion in all indifferent affairs, where reaſon and ſcripture make no remonſtrances againſt it. But the judgments of the mind ought to be for ever free, and not biaſſed by the cuſtoms and faſhions of any age or nation whatſoever.

To deliver our underſtandings from this danger and ſlavery, we ſhould conſider theſe three things:

1. That the greateſt part of the civil cuſtoms of any particular nation or age ſpring from humour rather than reaſon. Sometimes the humour of the prince prevails, and ſometimes the humour of the people. It is either the great or the many who dictate the faſhion, and theſe have not always the higheſt reaſon on their ſide.

2. Conſider alſo, that the cuſtoms of the ſame nation in different ages, the cuſtoms of different nations in the ſame age, and the cuſtoms of different towns and villages in the ſame nation, are very various, and contrary to each other. The faſhionable learning, language, ſentiments and rules of politeneſs differ greatly in different countries and ages of mankind; but truth and reaſon are of a more uniform and ſteady nature, and do not change with the faſhion. Upon this account, to cure the prepoſſeſſions which ariſe from cuſtom, it is of excellent uſe to travel, and ſee the cuſtoms of various countries, and to read the travels of other men, and the hiſtory of paſt ages, that every thing may not ſeem ſtrange and uncouth, which is not practiſed within the limits of our own pariſh, or in the narrow ſpace of our own life time.

3. Conſider yet again, how often we ourſelves have changed our own opinions concerning the decency, propriety, or congruity of ſeveral modes or practices

in the world, eſpecially if we have lived to the age of thirty or forty. Cuſtom or faſhion, even in all its changes, has been ready to have ſome degree of aſcendency over our underſtandings, and what at one time ſeemed decent appears obſolete and diſagreeable afterwards, when the faſhion changes. Let us learn therefore to abſtract as much as poſſible from cuſtom and faſhion, when we would paſs a judgment concerning the real value and intrinſic nature of things.

III. *The authority of men is the ſpring of another rank of prejudices.*

Among theſe the authority of our forefathers and ancient authors is moſt remarkable. We pay deference to the opinions of others, merely becauſe they lived a thouſand years before us; and even the trifles and impertinencies that have a mark of antiquity upon them are reverenced for this reaſon, becauſe they came from the ancients. It is granted, that the ancients had many wiſe and great men among them, and ſome of their writings, which time hath delivered down to us, are truly valuable: but thoſe writers lived rather in the infant ſtate of the world; and the philoſophers, as well as the polite authors of our age, are properly the elders, who have ſeen the miſtakes of the younger ages of mankind, and corrected them by obſervation and experience.

Some borrow all their religion from the fathers of the Chriſtian church, or from their ſynods or councils; but he, that will read Monſieur Daille on the uſe of the fathers, will find many reaſons why they are by no means fit to dictate our faith, ſince we have the goſpel of Chriſt, and the writings of the apoſtles and prophets in our own hands.

Some perſons believe every thing that their kindreds, their parents, and their tutors believe. The veneration and the love which they have for their anceſtors incline them to ſwallow down all their opinions at once, without examining what truth or falſehood there is in them. Men take up their principles by inheritance, and defend them as they would their eſtates, becauſe they are born heirs to them. I freely grant, that pa-

rents are appointed by God and nature to teach us all the ſentiments and practices of our younger years; and happy are thoſe whoſe parents lead them into the paths of wiſdom and truth! I grant farther, that when perſons come to years of diſcretion, and judge for themſelves, they ought to examine the opinions of their parents with the greateſt modeſty, and with an humble deference to their ſuperior character; they ought, in matters perfectly dubious, to give the preference to their parent's advice, and always to pay them the firſt reſpect, nor ever depart from their opinions and practice, till reaſon and conſcience make it neceſſary. But after all, it is poſſible that parents may be miſtaken, and therefore reaſon and ſcripture ought to be our final rules of determination in matters that relate to this world, and that which is to come.

Sometimes a favourite author, or a writer of great name, drags a thouſand followers after him into his own miſtakes, merely by the authority of his name and character. The ſentiments of Ariſtotle were imbibed and maintained by all the ſchools in Europe for ſeveral centuries; and a citation from his writings was thought a ſufficient proof of any propoſition. The great Deſcartes had alſo too many implicit believers in the laſt age, though he himſelf, in his philoſophy, diſclaims all ſuch influence over the minds of his readers. Calvin and Luther, in the days of reformation from popery, were learned and pious men, and there have been a ſucceſſion of their diſciples even to this day, who pay too much reverence to the words of their maſters. There are others who renounce their authority, but give themſelves up in too ſervile a manner to the opinion and authority of other maſters, and follow as bad or worſe guides in religion.

If only learned, and wiſe, and good men had influence on the ſentiments of others, it would be at leaſt a more excuſable ſort of prejudice, and there would be ſome colour and ſhadow of reaſon for it; but that riches, honours, and outward ſplendor ſhould ſet up perſons for dictators to all the reſt of mankind; this is a moſt ſhameful invaſion of the right of our underſtandings on the one hand, and as ſhameful a ſlavery of the

ſoul on the other. The poor man, or the labourer, too often believes ſuch a principle in politics, or in morality, and judges concerning the rights of the king and the people, juſt as his wealthy neighbours do. Half the pariſh follows the opinion of the eſquire, and the tenants of a manor fall into the ſentiments of their lord, eſpecially if he live amongſt them. How unreaſonable and yet how common is this!

As for principles of religion, we frequently find how they are taken up and forſaken, changed and reſumed by the influence of princes. In all nations the prieſts have much power alſo in dictating the religion of the people, but the princes dictate to them: And where there is a great pomp and grandeur attending the prieſthood in any religion whatſoever, with ſo much the more reverence and ſtronger faith do the people believe whatever they teach them: yet it is too often evident that riches, and dominions, and high titles in church or ſtate, have no manner of pretence to truth and certainty, wiſdom and goodneſs, above the reſt of mortals, becauſe theſe ſuperiorities in this world are not always conferred according to merit.

I confeſs, where a man of wiſdom and years, of obſervation and experience, gives us his opinion and advice in matters of the civil or the moral life, reaſon tells us we ſhould pay a great attention to him, it is probable he may be in the right. Where a man of long exerciſe or piety ſpeaks of practical religion, there is a due deference to be paid to his ſentiments: and the ſame we may ſay concerning an ingenious man long verſed in any art or ſcience, he may juſtly expect due regard, when he ſpeaks of his own affairs and proper buſineſs. But in other things each of theſe may be ignorant enough, notwithſtanding all their piety and years, and particular ſkill: nor even in their own proper province are they to be believed in every thing without reſerve, and without examination.

To free ourſelves from theſe prejudices, it is ſufficient to remember, that there is no rank nor character among mankind, which has any juſt pretence to ſway the judgments of other men by their authority; for there have been perſons of the ſame rank and character

who have maintained different and contrary ſentiments: but all theſe can never be true, and therefore the mere name or reputation that any of them poſſeſſes is not a ſufficient evidence for truth.

Shall we believe the ancients in philoſophy! But ſome of the ancients were ſtoics, ſome peripatetics, ſome platonics, and ſome epicureans, ſome cynics, and ſome ſceptics. Shall we judge of matters of the Chriſtian faith by the fathers or primitive writers for three or four hundred years after Chriſt? But they often contradicted one another, and themſelves too; and, what is worſe, they ſometimes contradicted the ſcripture itſelf. Now among all theſe different and contrary ſentiments in philoſophy and religion, which of the ancients muſt we believe, for we cannot believe them all?

Again; to believe all things as our predeceſſors did, is the ready way to keep mankind in an everlaſting ſtate of infancy, and to lay an eternal bar againſt all the improvements of our reaſon and our happineſs. Had the preſent age of philoſophers ſatisfied themſelves with the ſubſtantial forms and occult qualities of Ariſtotle, with the ſolid ſpheres, eccentrics, and epicyles of Ptolomy, and the ancient aſtronomers; then the great lord Bacon, Copernicus, and Diſcartes, with the greater Sir Iſaac Newton, Mr Locke, and Mr Boyle, had riſen in our world in vain. We muſt have blundered on ſtill in ſucceſſive generations amongſt abſurdities and thick darkneſs, and a hundred uſeful inventions for the happineſs of human life had never been known.

Thus it is in matters of philoſophy and ſcience. But, you will ſay, ſhall not our own anceſtors determine our judgments in matters of civil or religious concernment? If they muſt, then the child of a Heathen muſt believe that heatheniſm is true; the ſon of a Papiſt muſt believe all the abſurdities of popery; the poſterity of the Jews and Socinians muſt for ever be Socinians and Jews; and a man whoſe father was of republican principles muſt make a ſucceſſion of republicans in his family to the end of the world. If we ought always to believe whatſoever our parents, or our prieſts, or our princes believe, the inhabitants of China ought

to worſhip their own idols, and the ſavages of Africa ought to believe all the nonſenſe, and practiſe the idolatry of their Negro fathers and kings. The Britiſh nation, when it was heathen, could never have become Chriſtian: and when it was a ſlave to Rome, it could never have been reformed.

Beſides, let us conſider that the great God, our common maker, has never given one man's underſtanding a legal and rightful ſovereignty to determine truths for others, at leaſt after they are paſt the ſtate of childhood or minority. No ſingle perſon, how learned and wiſe, and great ſoever, or whatſoever natural, or civil, or eccleſiaſtical relation he may have to us, can claim this dominion over our faith. St Paul the *apoſtle, in* his private capacity, would not do it; nor hath an inſpired man any ſuch authority, until he makes his divine commiſſion appear. Our ſaviour himſelf tells the Jews, that if he had not done ſuch wondrous works among them, they had not ſinned in diſbelieving his doctrines, and refuſing him for the Meſſiah. No biſhop or preſbyter, no ſynod or council, no church or aſſembly of men, (ſince the days of inſpiration) hath power derived to them from God to make creeds or articles of faith for us, and impoſe them upon our underſtandings. We muſt all act according to the beſt of our own light, and the judgment of our own conſciences, uſing the beſt advantages which providence hath given us, with an honeſt and impartial diligence to inquire and ſearch out the truth: for every one of us muſt give an account of himſelf to God. To believe as the church, or the court believes, is but a ſorry and a dangerous faith; this principle would make more Heathens than Chriſtians, and more Papiſts than Proteſtants; and perhaps lead more ſouls to Hell than to Heaven; for our Saviour himſelf has plainly told us, that if the blind will be led by the blind, they muſt both fall into the ditch.

Though there be ſo much danger of error ariſing from the three prejudices laſt mentioned, yet before I diſmiſs this head, I think it proper to take notice, that as education, cuſtom and authority, are no ſure evidences of truth, ſo neither are they certain marks of

falſehood; for reaſon and ſcripture may join to dictate the ſame things which our parents, our nurſes, our tutors, our friends, and our country believe and profeſs. Yet there appears ſometimes in our age a pride and petulancy in youth, zealous to caſt off the ſentiments of their fathers and teachers, on purpoſe to ſhew that they carry none of the prejudices of education and authority about them. They indulge all manner of licentious opinions and practices, from a vain pretence of aſſerting their liberty. But alas! this is but changing one prejudice for another; and ſometimes it happens by this means, that they make a ſacrifice both of truth and virtue to the vile prejudices of their pride and ſenſuality.

IV. There is another tribe of prejudices which are near a-kin to thoſe of authority, and that is, when we receive a doctrine becauſe of the manner in which it is propoſed to us by others. I have already mentioned the powerful influence that oratory and fine words have to inſinuate a falſe opinion, and ſometimes truth is refuſed, and ſuffers contempt in the lips of a wiſe man, for want of the charms of language: But there are ſeveral other manners of propoſals whereby miſtaken ſentiments are powerfully conveyed into the mind.

Some perſons are eaſily perſuaded to believe what another dictates with a poſitive air and a great degree of aſſurance: they feel the overbearing force of a confident dictator, eſpecially if he be of a ſuperior rank or character to themſelves.

Some are quickly convinced of the truth of any doctrine, when he that propoſes it puts on all the airs of piety, and makes ſolemn appeals to heaven, and proteſtations of the truth of it: the pious mind of a weaker chriſtian is ready to receive any thing that is pronounced with ſuch an awful ſolemnity.

It is a prejudice near a-kin to this, when a humble ſoul is frighted into any particular ſentiments of religion, becauſe a man of great name or character pronounces hereſy upon the contrary ſentiments, caſts the diſbeliever out of the church, and forbids him the gates of heaven.

Others are allured into particular opinions by gentler

practi:es on the underſtanding; Not only the ſoft tempers of mankind, but even hardy and rugged ſouls are ſometimes led away captives to error by the ſoft airs of addreſs, and the ſweet and engaging methods of perſuaſion and kindneſs.

I grant, where natural and revealed religion plainly dictate to us the infinite and everlaſting importance of any ſacred doctrine, it cannot be improper to uſe any of theſe methods, to perſuade men to receive and obey the truth, after we have given ſufficient reaſon and argument to convince their underſtandings. Yet all theſe methods, conſidered in themſelves, have been often uſed to convey falſehood into the ſoul, as well as truth; and if we build our faith merely upon theſe foundations, without regard to the evidence of truth and the ſtrength of argument, our belief is but the effect of prejudice: For neither the poſitive, the awful or ſolemn, the terrible or the gentle methods of addreſs carry any certain evidence with them that truth lies on that ſide.

There is another manner of propoſing our own opinion, or rather oppoſing the opinions of others, which demands mention here, and that is, when perſons make a jeſt ſerve inſtead of an argument; when they refute what they call an error by a turn of wit, and anſwer every objection againſt their own ſentiments, by caſting a ſneer upon the objector. Theſe ſcoffers practiſe with ſucceſs upon weak and cowardly ſpirits: Such as have not been well eſtabliſhed in religion or morality have been laughed out of the beſt principles by a confident buffoon: they have yielded up their opinions to a witty banter, and ſold their faith and religion for a jeſt.

There is no way to cure theſe evils in ſuch a degenerate world as we live in, but by learning to diſtinguiſh well between the ſubſtance of any doctrine, and the manner of addreſs either in propoſing, attacking, or defending it; and then by ſetting a juſt and ſevere guard of reaſon and conſcience over all the exerciſes of their judgment, reſolving to yield to nothing but the convincing evidence of truth religiouſly obeying the light of reaſon in matters of pure reaſon, and the dictates of revelation in things that relate to our faith.

Thus we have taken a brief ſurvey of ſome of the

infinite varieties of prejudices that attend mankind on every ſide in the preſent ſtate, and the dangers of error or of raſh judgment we are perpetually expoſed to in this life: This chapter ſhall conclude with one remark, and one piece of advice.

The remark is this. The ſame opinion, whether falſe or true, may be dictated by many prejudices at the ſame time; for as I hinted before, prejudice may happen to dictate truth ſometimes as well as error. But where two or more prejudices oppoſe one another, as it often happens, the ſtronger prevails and gains the aſſent: Yet how ſeldom does reaſon interpoſe with ſufficient power to get the aſcendant of them all, as it ought to do!

The advice follows, (viz.) Since we find ſuch a ſwarm of prejudices attending us both within and without; ſince we feel the weakneſs of our reaſon, the frailty of our natures, and our inſufficiency to guard ourſelves from error upon this account, it is not at all unbecoming the character of a logician or a philoſopher (together with the advice already given) to direct every perſon in ſearch after truth to make his daily addreſſes to heaven, and implore the God of truth to lead him into all truth, and to aſk wiſdom of him who giveth liberally to them that aſk it, and upbraideth us not with our own follies.

Such a devout practice will be an excellent preparative for the beſt improvement of all the directions and rules propoſed in the two following chapters.

CHAP. IV.

GENERAL DIRECTIONS TO ASSIST US IN JUDGING ARIGHT.

THE chief deſign of the art of logic is to aſſiſt us in forming a true judgment of things; a few proper obſervations for this end have been dropt occa-

ſionally in ſome of the foregoing chapters: Yet it is neceſſary to mention them again in this place, that we may have a more complete and ſimultaneous view of the general directions, which are neceſſary in order to judge aright. A multitude of advices may be framed for this purpoſe; the chief of them may, for order ſake, be reduced to the following heads.

I. Direct. *When we conſider ourſelves as philoſophers, or ſearchers after truth, we ſhould examine all our opinions afreſh, and inquire what was the ground of them, and whether our aſſent was built on juſt evidence*; and then we ſhould caſt off all thoſe judgments which were formed heretofore without due examination. A man in purſuit of knowledge ſhould throw off all theſe prejudices which he had imbibed in times paſt, and guard againſt all the ſprings of error mentioned in the preceding chapter, with the utmoſt watchfulneſs for time to come.

Obſerve here, that this rule of caſting away all our former prejudicate opinions and ſentiments, is not propoſed to any of us to be practiſed at once, conſidered as men of buſineſs, or religion, as friends or neighbours, as fathers or ſons, as magiſtrates, ſubjects or Chriſtians; but merely as philoſophers and ſearchers after truth: And though it may be well preſumed that many of our judgments, both true and falſe, together with the practices built thereon in the natural, the civil and the religious life, were formed without ſufficient evidence; yet an univerſal rejection of all theſe might deſtroy at once our preſent ſenſe and practice of duty with regard to God, ourſelves, and our fellow-creatures. Mankind would be hereby thrown into ſuch a ſtate of doubting and indifference, that it would be too long ere they recovered any principles of virtue or religion by a train of reaſoning.

Beſides, the common affairs of human life often demand a much ſpeedier determination, and we muſt many times act upon preſent probabilities: The bulk of mankind have not time and leiſure, and advantages ſufficient to begin all their knowledge anew, and to build up every ſingle opinion and practice afreſh upon the juſteſt grounds of evidence.

Yet let it be obſerved alſo, that ſo far as any perſon is capable of forming and correcting his notions and rules of conduct in the natural, civil and religious life, by the ſtrict rules of logic; and ſo far as he hath time and capacity to review his old opinions, to re-examine all thoſe which are any way doubtful, and to determine nothing without juſt evidence, he is likely, to become ſo much the wiſer, and the happier man, and (if divine grace aſſiſt him) ſo much the better Chriſtian. And though this cannot be done all at once, yet it may be done by the prudent ſteps and degrees, till our whole ſet of opinions and principles be in time corrected and reformed, or at leaſt eſtabliſhed upon juſter foundations.

II. Direct. *Endeavour that all your ideas of thoſe objects, concerning which you paſs any judgment, be clear and diſtinct, complete, comprehenſive, extenſive and orderly, as far as you have any occaſion to judge concerning them.* This is the ſubſtance of the laſt chapter of the firſt part of logic. The rules which direct our conceptions muſt be reviewed, if we would form our judgments aright. But if we will make haſte to judge at all adventures, while our ideas are dark and confuſed, and very imperfect, we ſhall be in danger of running into many miſtakes. This is like a perſon who would pretend to give the ſum total of a large account in arithmetic, without ſurveying all the particulars; or as a painter, who profeſſes to draw a fair and diſtinct landſkip in the twilight, when he can hardly diſtinguiſh a houſe from a tree.

Obſerve here, that this direction does not require us to gain clear, diſtinct, complete ideas of things in all their parts, powers, and qualities in an abſolute ſenſe, for this belongs to God alone, and is impoſſible for us to attain: But it is expreſſed in a relative or limited ſenſe; that is, our ideas ſhould be clear, diſtinct, and comprehenſive, *&c.* at leaſt ſo far as we have occaſion at that time to judge concerning them. We may form many true and certain judgments concerning God, angels, animals, men, heaven, hell, *&c.* by thoſe partial and very imperfect conceptions of them to which we have attained, if we judge no farther concerning them than our conceptions reach.

We may have a clear and diſtinct idea of the exiſtence of many things in nature, and affirm that they do exiſt, though our ideas of their intimate eſſences and cauſes, their relations and manners of actions are very confuſed and obſcure. We may judge well concerning ſeveral properties of any being, though other properties are unknown, for perhaps we know not all the properties of any being whatſoever.

Sometimes we have clear ideas of the abſolute properties of an object; and we may judge of them with certainty, while the relative properties are very obſcure and unknown to us. So we may have a clear and juſt idea of the area of a parallelogram, without knowing what a relation it bears to the area of a triangle or a polygion. I may know the length of the diameter of a circle, without knowing what proportion it has to the circumference.

There are other things, whoſe external relative properties with reſpect to each other, or whoſe relation to us we know better than their own inward and abſolute properties, or their eſſential diſtinguiſhing attributes. We perceive clearly, that fire will warm or burn us, and will evaporate water; and that water will allay our thirſt, or quench the fire, though we know not the inward diſtinguiſhing particles, or prime eſſential properties of fire or water. We may know the king, and lord Chancellor and affirm many things of them in their legal characters, though we can have but a confuſed idea of their perſons or natural features, if we have never ſeen their faces. So the ſcripture has revealed God himſelf to us, as our creator, preſerver, redeemer, and ſanctifier and as the object of our worſhip, in clearer ideas than it has revealed many other abſtruſe queſtions which may be raiſed about his own divine eſſence or ſubſtance, his immenſity or omnipreſence.

This therefore is the general obſervation in order to guide our judgments, that we ſhould not allow ourſelves to form a judgment concerning things farther than our clear and diſtinct ideas reach, and then we are not in danger of error.

But there is one conſiderable objection againſt this rule which is neceſſary to be anſwered; and there is

one juſt and reaſonable exception, which is as needful to be mentioned.

The objection is this: May we not judge falſely concerning ſome total or complete ideas, when we have a clear perception only of ſome parts or properties of them? May we not affirm, that all that is in God is eternal, or that all his unknown attributes are infinite, though we have ſo imperfect an idea of God, eternity and infinity? Again may we not ſafely judge of particular objects whoſe idea is obſcure, by a clear idea of the general? May I not affirm, that every unknown ſpecies of animals has inward ſprings of motion, becauſe I have a clear idea that theſe inward ſprings belong to an animal in general.

Anſwer. All thoſe ſuppoſed unknown parts, properties or ſpecies, are clearly and diſtinctly perceived to be connected with, or contained in the known parts, properties, or general ideas, which we ſuppoſe to be clear and diſtinct as far as we judge of them: And as we have no particular idea of thoſe unknown divine attributes, or unknown ſpecies of animals; ſo there is nothing particular affirmed of them beyond what belongs to the general idea of divine attributes or animals, with which I clearly and diſtinctly perceive them to be connected.

It may be illuſtrated in this manner. Suppoſe a long chain lies before me, whoſe nearest links I ſee are iron rings, and I ſee them faſtened to a poſt near me, but the moſt diſtant links lie beyond the reach of my ſight, ſo that I know not whether they are oval or round, braſs or iron: Now I may boldly affirm the whole length of this chain is faſtened to the poſt, for I have a clear idea that the diſtant links are connected with the nearest, if I can draw the whole chain by one link.

Or thus: If two known ideas, A and B are evidently joined or agree, and if C unknown be included in A, and alſo D unknown be included in B, then I may affirm that C and D are joined and agree; for I have a clear perception of the union of the two known ideas A and B; and alſo a clear perception of the connection of the unknown ideas with the known. So that clear and diſtinct ideas muſt ſtill abide as a general neceſſary

qualification in order to form right judgments: And indeed it is upon this foot that all ratiocination is built and the concluſions are thus formed, which deduce things unknown from things known.

Yet it ſeems to me, that there is one juſt limitation or exception to this general rule of judgment, as built on clear and diſtinct ideas; and it is this;

Exception. In matters of mere teſtimony, whether human or divine, there is always a neceſſity of clear and diſtinct ideas of the things which are believed. Though the evidence of propoſitions, which are entirely formed by ourſelves, depends on the clearneſs and diſtinctneſs of thoſe ideas of which they are compoſed, and on our own clear perception of their agreement or *diſagreement*, yet they may juſtly aſſent to propoſitions *formed* by others, when we have neither a very clear conception in ourſelves of the two ideas contained in the words, nor how they agree or diſagree; provided always that we have a clear and ſufficient evidence of the credibility of the perſons who inform us.

Thus when we read in ſcripture the great doctrines of the deity of Chriſt, and of the union of the divine and human natures in him, of the divine agency of the bleſſed Spirit, that the ſon is the brightneſs of the father's glory; that all things were created by him, and for him, that the ſon ſhall give up his kingdom to his father, and that God ſhall be all in all, we may ſafely believe them: For though our ideas of theſe objects themſelves are not ſufficiently clear, diſtinct and perfect, for our own minds to form theſe judgments or propoſitions concerning them, yet we have a clear and diſtinct perception of God's revealing them, or that they are contained in ſcripture and this is ſufficient evidence to determine our aſſent.

The ſame thing holds true in ſome meaſure, where credible human teſtimony aſſures us of ſome propoſitions, while we have no ſufficient ideas of the ſubject and predicate of them to determine our aſſent. So when an honeſt and learned mathematician aſſures a ploughman that the three angles of a triangle are equal to two right angles, or that the ſquare of a hypothenuſe of a right angled triangle is equal to the ſum of the

ſquares of the two ſides; the ploughman, who has but confuſed ideas of theſe things, may firmly and ſafely believe theſe propoſitions upon the ſame ground, becauſe he has evidence of the ſkill and faithfulneſs of his informer.*

* Perhaps ſome may object againſt this repreſentation of things, and ſay, that "we cannot properly be ſaid to believe a propoſition any farther than we ourſelves have ideas under the terms: therefore if we have no idea under the terms, we believe nothing but the connection of words or ſounds: and if we have but obſcure and inadequate ideas under the terms, then we partly believe a connection of things, and partly a connection of ſounds; but that we cannot properly be ſaid to believe the propoſition, for our faith can never go beyond our ideas."

Now to ſet this matter in a clear light, I ſuppoſe that every propoſition which is propoſed to my aſſent, is a ſentence made up of terms which have ſome ideas under them known or unknown to me. I confeſs, if I believe there are no ideas at all under the terms, and there is nothing meant by them, then indeed (with regard to me) it is the mere joining of ſounds; but if (for inſtance) a ploughman has credible information from an honeſt and ſkilful mathematician, that an ellipſis is made by the ſection of a cone, he believes the propoſition, or he believes the ſentence is true, as it is made up of terms which his informant underſtands, though the ideas be unknown to him; that is, he believes there are ſome ideas which his informant has under theſe words which are really connected. And, I think this may juſtly be called believing the propoſition, for it is a belief of ſomething more than the mere joining of ſounds; it is a belief of the real connection of ſome unknown ideas belonging to thoſe ſounds, and in this ſenſe a man may be ſaid to believe the truth of a propoſition which he doth not underſtand at all.

With more reaſon ſtill may we be ſaid to believe a propoſition upon credible teſtimony, if we have ſome ſort of ideas under the terms, though they are but partial or inadequate, and obſcure; ſuch as, divine anſwers were given by Urim and Thummim; for ſince it is purely upon teſtimony we believe the known parts of the ideas ſignified by thoſe words to be connected, upon the ſame testimony we may alſo believe all the unknown parts of the ideas ſignified by thoſe words to be connected, (viz.) becauſe our informant is knowing and faithful. And in this ſenſe we may juſtly be ſaid to believe a propoſition of ſcripture entirely, which we underſtand but very imperfectly, becauſe God who reveals it is knowing and faithful in perfection.

And indeed, unleſs this repreſentation of the matter be allowed, there are but very few propoſitions in the world, even in human things, to which we can give an entire aſſent, or which we may be ſaid either to know, or to believe, becauſe there is ſcarce any thing on earth of which we have an adequate, and moſt perfect idea. And it is evident that in divine things there is ſcarce any thing which we could either know or believe without this allowance: for though reaſon and revelation join to inform me that God is holy, how exceeding inadequate are my ideas of God, and of holineſs? Yet I may boldly and

III. Direct. *When you have obtained as clear and comprehenſive ideas as is needful, both of the ſubject and predi-*

entirely aſſent to this whole propoſition, ſince I am ſure that every known and unknown idea ſignified by the term God is connected with the idea of the term holineſs, becauſe reaſon partly informs me, but eſpecially becauſe the divine teſtimony which has connected them, is certainly credible.

I might argue upon this head perhaps more forcibly from the doctrine of God's incomprehenſibleneſs. If we would believe nothing but what we have ideas of, it would be impoſſible for us to believe that God is incomprehenſible: for this implies in it a belief, that there are ſome unknown ideas belonging to the nature of God. Therefore we do both believe and profeſs that ſomething concerning unknown ideas, when we believe and profeſs that God is incomprehenſible.

I perſuade myſelf that moſt of theſe very perſons who object againſt my repreſentation of things will yet readily confeſs they believe *all the* propoſitions in ſcripture, rather than declare they do not believe ſeveral of them: though they muſt acknowledge that ſeveral of them are far above their underſtanding, or that they have ſcarce any ideas of the true ſenſe of them. And therefore, where propoſitions derived from credible teſtimony are made up of dark or inadequate ideas, I think it is much more proper to ſay, we believe them, than that we do not believe them, leſt we cut off a multitude of the propoſitions of the bible from our aſſent of faith.

Yet let it be obſerved here, that when we believe a propoſition on mere teſtimony, of which we have no ideas at all, we can only be ſaid to give a general implicit aſſent to the truth of that propoſition, without any particular knowledge of, or explicit aſſent to the ſpecial truth contained in that propoſition: and this our implicit aſſent is of very little uſe, unleſs it be to teſtify our belief of the knowledge and veracity of him that informs us.

As our ideas of a propoſition are more or leſs clear and adequate, as well as juſt and proper, ſo we explicitly aſſent more or leſs to the particular truth contained in that propoſition. And our aſſent hereby becomes more or leſs uſeful for the increaſe of our knowledge, or the direction of our practiſe.

When divine teſtimony plainly propoſes to our faith ſuch a propoſition whereof we have but obſcure, doubtful and inadequate ideas, we are bound implicitly to believe the truth of it, expreſſed in thoſe terms, in order to ſhew our ſubmiſſion to God who reveal'd it, as a God of perfect knowledge and veracity: but it is our duty to uſe all proper methods to obtain a farther and explicit knowledge of the particular truth contained in the propoſition, if we would improve by it either in knowledge or virtue. All neceſſary rules of grammar and criticiſm ſhould be employed to find out the very ideas that belong to theſe words, and which were deſigned by the divine ſpeaker or writer. Though we may believe the truth of a propoſition which we do not underſtand, yet we ſhould endeavour to underſtand every propoſition which we believe to be true.

eate of a propoſition, then compare thoſe ideas of the ſubject and predicate together with the utmoſt attention, and obſerve how far they agree, and wherein they differ: whether the propoſition may be affirmed abſolutely or relatively, whether in whole or in part, whether univerſally or particularly, and then under what particular limitations. Turn theſe ideas about in your mind, and take a view of them on all ſides, juſt as a maſon would do to ſee whether two hewn ſtones exactly ſuit each other in every part, and are fit to be joined in erecting a carved or fluted pillar.

Compare the whole ſubject with the whole predicate in their ſeveral parts: take heed in this matter that you neither add to nor diminiſh the ideas contained in the ſubject or in the predicate; for ſuch an inadvertence or miſtake will expoſe you to great error in judgment.

IV. Direction. *Search for evidence of truth with diligence and honeſty, and be heartily ready to receive evidence, whether for the agreement or diſagreement of ideas.*

Search with diligence; ſpare no labour in ſearching for the truth in due proportion to the importance of the propoſition. Read the beſt authors who have writ on that ſubject; conſult your wiſe and learned friends in converſation; and be not unwilling to borrow hints toward your improvement from the meaneſt perſon, nor to receive any glimpſe of light from the moſt unlearned. Diligence and humility is the way to thrive in the riches of the underſtanding, as well as in gold or ſilver. Search carefully for the evidence of truth, and dig for wiſdom as for hid treaſure.

Search with a ſteady honeſty of ſoul, and a ſincere impartiality to find the truth. Watch againſt every temptation that might bribe your judgment, or warp it aſide from truth. Do not indulge yourſelf to wiſh any unexamined propoſition were true or falſe. A wiſh often perverts the judgment, and tempts the mind ſtrangely to believe upon ſlight evidence whatſoever we with to be true or falſe.

V. Direction. *Since the evidence of the agreement or diſagreement of two ideas is the ground of our aſſent to any propoſition, or the great criterion of truth*; therefore we

ſhould ſuſpend our judgment, and neither affirm nor deny till this evidence appear.

This direction is different from the ſecond; for though the evidence of the agreement or diſagreement of two ideas moſt times depends on the clearneſs and diſtinctneſs of the ideas themſelves, yet it does not always ariſe thence. Teſtimony may be a ſufficient evidence of the agreement or diſagreement of two obſcure ideas, as we have ſeen juſt before in the exception under the ſecond direction. Therefore, though we are not univerſally and in all caſes bound to ſuſpend our judgment, till our ideas of the objects themſelves are clear and diſtinct, yet we muſt always ſuſpend our judgment, and with-hold our aſſent to, or denial of any propoſition, till ſome juſt evidence appear of its truth or falſehood. It is an impatience of doubt and ſuſpence, a raſhneſs and precipitance of judgment, and haſtineſs to believe ſomething on the one ſide or the other, that plunges us into many errors.

This direction to delay and ſuſpend our aſſent is more particularly neceſſary to be obſerved when ſuch propoſitions offer themſelves to us as are ſuppo ted by education, authority, cuſtom, inclination, intereſt, or other powerful prejudices; for our judgment is led away inſenſibly to believe all that they dictate; and where prejudices and dangers of error are multiplied, we ſhould ſet the ſtricter guard upon our aſſent.

Yet remember the caution or limitation here which I gave under the firſt direction (viz.) that this is not to be too ſtrictly applied to matters of daily practice, either in human life or religion; but when we conſider ourſelves as philoſophers, or ſearchers after truth, we ſhould always with-hold our aſſent where there is not juſt evidence: And as far and as faſt as we can in a due conſiſtence with our daily neceſſary duties, we ſhould alſo reform and adjuſt all our principles and practices both in religion and the civil life by theſe rules.

VI. Direct. *We muſt judge of every propoſition by thoſe proper and peculiar mediums or means, whereby the evidence of it is to be obtained, whether it be ſenſe, conſciouſneſs, intelligence, reaſon, or teſtimony.* All our faculties and

powers are to be employed in judging of their proper objects.

If we judge of ſounds, colours, odours, or ſapors, the ſmoothneſs, roughneſs, ſoftneſs, or hardneſs of bodies, it muſt be done by the uſe of our ſenſes: but then we muſt take heed that our ſenſes are well diſpoſed, as ſhall be ſhewn afterwards.

And ſince our ſenſes, in their various exerciſes are in ſome caſes liable to be deceived, and more eſpecially when by our eyes or ears we judge of the figure, quantity, diſtance, and poſition of objects that are far off, we ought to call our reaſon into the aſſiſtance of our ſenſes, and correct the errors of one ſenſe by the help of another.

It is by the powers of ſenſe and reaſon joined together, that we muſt judge philoſophically of the inward nature, the ſecret properties and powers, the cauſes and effects, the relations and proportions of a thouſand corporeal objects which ſurround us on earth, or are placed at a diſtance in the heavens. If a man on the one hand confines himſelf only to ſenſible experiments, and does not exerciſe reaſon upon them, he may ſurpriſe himſelf and others with ſtrange appearances, and learn to entertain the world with ſights and ſhows, but will never become a philoſopher: and on the other hand, if a man impriſon himſelf in his cloſet, and employ the moſt exquiſite powers of reaſon to find out the nature of things in the corporeal world, without the uſe of his ſenſes, and the practice of experiments, he will frame to himſelf a ſcheme of chimeras inſtead of true philoſophy. Hence came the invention of ſubſtantial forms and qualities, of *materia prima* and privation, with all the inſignificant names uſed by the peripatetic writers; and it was for want of more experiments that the great Deſcartes failed in ſeveral parts of his philoſophical writings.

In the abſtracted and ſpeculative parts of the mathematics, which treat of quantity and number, the faculty of reaſon muſt be chiefly employed to perceive the relation of various quantities, and draw certain and uſeful concluſions; but it wants the aſſiſtance of ſenſe alſo to be acquainted with lines, angles and figures.

And in practical mathematics our ſenſes have ſtill greater employment.

If we would judge of the pure properties, and actions of the mind, of the nature of ſpirits, their various perceptions and powers, we muſt not inquire of our eyes and our ears, nor the images or ſhapes laid up in the brain, but we muſt have recourſe to our own conſciouſneſs of what paſſes within our own mind.

If we are to paſs a judgment upon any thing that relates to ſpirits in a ſtate of union with animal nature, and the mixt properties of ſenſation, fancy, appetite, paſſion, pleaſure and pain, which ariſe thence, we muſt conſult our own ſenſations, and the other powers which we find in ourſelves, conſidered as men or creatures made up of a mind and an animal; and by juſt reaſonings deduce proper conſequences, and improve our knowledge in theſe ſubjects.

If we have occaſion to judge concerning matters done in paſt ages, or in diſtant countries, and where we ourſelves cannot be preſent, the powers of ſenſe and reaſon (for the moſt part) are not ſufficient to inform us, and we muſt therefore have recourſe to the teſtimony of others: and this is either divine or human.

In matters of mere human prudence, we ſhall find the greateſt advantage by making wiſe obſervations on our own conduct, and the conduct of others, and a ſurvey of the events attending ſuch conduct. Experience in this caſe is equal to a natural ſagacity, or rather ſuperior. A treaſure of obſervations and experiences collected by wiſe men, is of admirable ſervice here. And perhaps there is nothing in the world of this kind equal to the ſacred book of Proverbs, even if we look on it as a mere human writing.

In queſtions of natural religion, we muſt exerciſe the faculty of reaſon which God has given us; and ſince he has been pleaſed to afford us his word, we ſhould confirm and improve or correct our reaſonings on this ſubject by the divine aſſiſtance of the bible.

In matters of revealed religion, that is, Chriſtianity, Judaiſm, &c. which we could never have known by the light of nature, the word of God is our only foundation and chief light; though here our reaſon muſt

be uſed both to find out the true meaning of God in his word, and to derive juſt inferences from what God has written, as well as to judge of the credentials whereby divine teſtimony is diſtinguiſhed from mere human teſtimony, or from impoſture.

As divine revelation can never contradict right reaſon, (for they are two great lights given us by our creator for our conduct) ſo reaſon ought by no means to aſſume to itſelf a power to contradict divine revelation.

Though revelation be not contrary to reaſon, yet there are four claſſes wherein matters of revelation may be ſaid to raiſe above, or go beyond our reaſon.

1. When revelation aſſerts two things of which we have clear ideas, to be joined, whoſe connection or agreement is not diſcoverable by reaſon; as when ſcripture informs us, that the dead ſhall riſe, that the earth ſhall be burnt up, and the man Chriſt Jeſus ſhall return from heaven, none of theſe things could ever be found out or proved by reaſon.

2. When revelation affirms any propoſition, while reaſon has no clear and diſtinct ideas of the ſubject, or of the predicate; as God created all things by Jeſus Chriſt: by the Urim and Thummim God gave forth divine oracles. The predicate of each of theſe propoſitions is to us an obſcure idea, for we know not what was the peculiar agency of Jeſus Chriſt when God the father created the world by him; nor have we any clear and certain conception what the Urim and Thummim were, nor how God gave anſwers to his people by them.

3. When revelation, in plain and expreſs language, declare ſome doctrine which our reaſon at preſent knows not with evidence and certainty how or in what ſenſe to reconcile ſome of its own principles; as, that the child Jeſus is the mighty God, Iſa. ix. 6. which propoſition carries a ſeeming oppoſition to the unity and ſpirituality of the godhead, which are principles of reaſon.

4 When two propoſitions or doctrines are plainly aſſerted by divine revelation, which our reaſon at preſent knows not how or in what ſenſe with evidence and certainty to reconcile with one another; as, the

Father is the only true God, John xvii. 3. and yet, Chriſt is over all, God bleſſed for ever, Rom. ix. 5.

Now divine revelation having declared all theſe propoſitions, reaſon is bound to receive them, becauſe it cannot prove them to be utterly inconſiſtent or impoſſible, though the ideas of them may be obſcure, though we ourſelves ſee not the rational connection of them, and though we know not certainly how to reconcile them. In theſe caſes reaſon muſt ſubmit to faith: that is, we are bound to believe what God aſſerts, and wait till he ſhall clear up that which ſeems dark and difficult, and till the myſteries of faith ſhall be farther explained to us, either in this world, or in the world to come,* and reaſon itſelf dictates this ſubmiſſion.

VII. Direct. *It is very uſeful to have ſome general principles of truth ſettled in the mind, whoſe evidence is great and obvious, that they may be always ready at hand to aſſiſt us in judging of the great variety of things which occur.* Theſe may be called firſt nations, or fundamental principles; for though many of them are deduced from each other, yet moſt or all of them may be called principles when compared with a thouſand other judgments which we form under the regulation and influence of theſe primary propoſitions.

Every art and ſcience, as well as the affairs of civil life and religion, have peculiar principles of this kind belonging to them. There are metaphyſical, phyſical, mathematical, political, œconomical, medicinal, theological, moral, and prudential principles of judgment. It would be too tedious to give a ſpecimen of them all in this place. Thoſe which are moſt of univerſal uſe to us both as men and as chriſtians, may be found in the following chapter among the rules of judgment about particular objects.

VIII. Direct. *Let the degrees of your aſſent to every propoſition bear an exact proportion to the different degrees of evidence.* Remember this is one of the greateſt principles of wiſdom that man can arrive at in this world, and the beſt human ſecurity againſt dangerous miſtakes in ſpeculation or practice.

* See ſomething more on this ſubject, direct. II. preced. and chap. V. ſect. 6.

In the nature of things, of which our knowledge is made up, there is infinite variety in their degrees of evidence. And as God hath given our minds a power to ſuſpend their aſſent till the evidence be plain, ſo we have a power to receive things which are propoſed to us with a ſtronger or weaker belief, in infinite variety of degrees proportionable to their evidence. I believe, that the planets are inhabited, and I believe that the earth rolls among them yearly round the ſun; but I do not believe both theſe propoſitions with an equal firmneſs of aſſent, becauſe the arguments for the latter are drawn from mathematical obſervations; but the arguments for the former are but probable conjectures and moral reaſonings. Yet neither do I believe either of theſe propoſitions ſo firmly, as I do that the earth is about twenty-four thouſand miles round, becauſe the mathematical proof of this is much eaſier, plainer and ſtronger. And yet farther, when I ſay that the earth was created by the power of God, I have ſtill a more infallible aſſurance of this than of all the reſt, becauſe reaſon and ſcripture join to aſſure me of it.

IX. Direct. *Keep your mind always open to receive truth and never ſet limits to your improvements.* Be always ready to hear what may be objected even againſt your favourite opinions, and thoſe which have had longeſt poſſeſſion of your aſſent. And if there ſhould be any new and uncontroulable evidence brought againſt theſe old or beloved ſentiments, do not wink your eyes faſt againſt the light, but part with any thing for the ſake of truth: Remember when you overcome an error, you gain truth; the victory is on your ſide, and the advantages is all your own,

I confeſs thoſe grand principles of belief and practice which univerſally influence our conduct both with regard to this life and the life to come, ſhould be ſuppoſed to be well ſettled in the firſt years of our ſtudies, ſuch as, the exiſtence and providence of God, the truth of chriſtianity, the authority of ſcripture, the general rules of morality, &c. We ſhould avoid a light fluttering genius, ever ready to change our foundations, and to be carried about with every kind of doctrine. To guard againſt which inconveniences, we ſhould labour with

earneſt diligence and fervent prayer, that our moſt fundamental and important points of belief and practice may be eſtabliſhed upon juſt grounds of reaſon and ſcripture when we come to years of diſcretion, and fit to judge for ourſelves in ſuch important points. Yet ſince it is poſſible that the folly or prejudices of younger years may have eſtabliſhed perſons in ſome miſtaken ſentiments, even in very important matters, we ſhould always hold ourſelves ready to receive any new advantage toward the direction or improvement even of our eſtabliſhed principles, as well as opinions of leſſer moment.

CHAP. V.

SPECIAL RULES TO DIRECT US IN JUDING OF PARTICULAR OBJECTS.

IT would be endleſs to run through all thoſe particular objects concerning which we have occaſion to paſs a judgment at one time or another. Things of the moſt frequent occurrence, of the wideſt extent, and of the greateſt importance, are the objects and exerciſes of ſenſe, of reaſon and ſpeculation, the matters of morality, religion, and prudence, of human and divine teſtimony, together with the eſſays of reaſoning upon things paſt and future. Special rules relating to all theſe will be the ſubject of the following ſections.

SECT. I.

Principles and Rules of Judgment concerning the Objects of Senſe.

THOUGH our ſenſes are ſometimes liable to be deceived, yet when they are rightly diſpoſed, and

fitly exercifed about their proper objects, with the juft aflifiance of reafon, they give us fufficient evidence of truth.

This may be proved from an argument drawn from the wifdom, goodnefs, and faithfulnefs of God our creator. It was he gave us our fenfes, and he would not make us of fuch a conftitution as to be liable to perpetual deception and unavoidable error in ufing thefe faculties of fenfe in the beft manner we are capable of, about thefe very things which are the proper objects of them.

This may be proved alfo by the ill confequences that would follow from the fuppofition of the contrary. If we could have no certainty of the dictates of our fenfes, we could never be fure of any of the common affairs and occurrences of life. Men could not tranfact any of their civil or moral concerns with any certainty or juftice: nor indeed could we eat or drink, walk or move with fafety. Our fenfes direct us in all thefe.

Again, the matters of religion depend in fome meafure upon the certainty of the dictates of fenfe; for faith comes by hearing; and it is to our fenfes that God appeals in working miracles to prove his own revelation. Now, if when our eyes and ears, and other organs of fenfe are rightly difpofed and exercifed about their proper objects, they were always liable to be deceived, there could be no knowledge of the gofpel, no proof of divine revelation by vifions, voices or miracles.

Our fenfes will difcover things near us and round about us, which are neceffary for our prefent ftate, with fufficient exactnefs, and things diftant alfo, as far as they relate to our neceffary ufe of them.

Nor is there need of any more accurate rules for the ufe of our fenfes in the judgment of all the common affairs of life, or even of miraculous and divine operations, than the vulgar part of mankind are fufficiently acquainted with by nature, and by their own daily obfervations.

But if we would expreſs theſe rules in a more exact manner, how to judge by the dictates of our fenfes, they fhould be repreſented thus:

1. We muſt take care that the organs of our ſenſe be rightly diſpoſed, and not under the power of any diſtemper or conſiderable decay; as for inſtance, that our eyes are not tinctured with the jaundice, when we would judge of colours, leſt we pronounce them all yellow: that our hands are not burning in a fever, or benumbed with froſt or the palſy, when we would judge of the heat or coldneſs of any object; that our palate be not vitiated by any diſeaſe, or by ſome other improper taſte, when we would judge of the true taſte of any ſolid or liquid. This direction relates to all our ſenſes, but the following rules chiefly refer to our ſight.

2. We muſt obſerve whether the object be at a proper diſtance, for if it be too near or too far off, our eyes will not ſufficiently diſtinguiſh many things which are properly the objects of ſight; and therefore (if poſſible) we muſt make nearer approaches to the object, or remove, farther from it, till we have obtained that due diſtance which gives us the cleareſt perception.

3. We muſt not employ our ſight to take a full ſurvey at once of objects that are too large for it, but we muſt view them by parts, and then judge of the whole; Nor muſt our ſenſes judge of objects too ſmall; for ſome things which appear through glaſſes to be really and diſtinctly exiſtent, are either utterly inviſible, or greatly confuſed, when we would judge of them by the naked eye.

4. We muſt place ourſelves in ſuch a poſition toward the object, or place the object in ſuch a poſition toward our eye, as may give us the cleareſt repreſentation of it: for a different poſition greatly alters the appearance of the ſhape of bodies. And for this reaſon we ſhould change the poſition both of the eye and the object in ſome caſes, that by viewing the object in ſeveral appearances, we may paſs a more complete and certain judgment concerning it.

5. We muſt conſider what the medium is by which objects are repreſented to our ſenſes; whether it be thinner or thicker; whether it be air or vapour, or water, or glaſs, &c. whether it be duly enlightened or duſky; whether it reflect or refract, or only tranſmit the appearance of the object; and whether it be tinc-

tured with any particular colour: whether it be moving or at reſt.

6. We muſt ſometimes uſe other helps to aſſiſt our ſenſes; and if we make uſe of glaſſes, we muſt make all juſt allowances for the thickneſs or thinneſs of them, for the clearneſs or dulneſs, for the ſmoothneſs or roughneſs, for the plainneſs, the convexity or concavity of them, and for the diſtance at which theſe glaſſes are placed from the eye, or from the object, (or from one another, if there be two or more claſſes uſed) and all this according to the rules of art. The ſame ſort of caution ſhould be uſed alſo in mediums which aſſiſt the hearing, ſuch as ſpeaking trumpets, hearing-trumpets, &c.

7. If the object may be propoſed to more ſenſes than one, let us call in the aſſiſtance of ſome other ſenſes to examine it, and this will increaſe the evidence of what one ſenſe dictates. For example; our ear may aſſiſt our eye in judging of the diſtance of bodies, which are both viſible and ſonorous, as an exploded canon, or a cloud charged with thunder. Our feeling may aſſiſt our ſight in judging of the kind, the ſhape, ſituation, or diſtance of bodies that are nearer at hand, as whether a garment be ſilk or ſtuff, &c. So if I both ſee, hear, and embrace my friend, I am ſure he is preſent.

8. We ſhould alſo make ſeveral trials, at ſome diſtant times, and in different circumſtances, comparing former experiments with later, and our own obſervations with thoſe of other perſons.

It is by ſuch methods as theſe that modern philoſophy has been ſo greatly improved by the uſe of ſenſible experiments.

SECT. II.

Principles and Rules of Judgment in Matters of Reaſon and Speculation.

IT is by reaſon we judge both in matters of ſpeculation and practice; there are peculiar rules which relate to things practical, whether they be matters of re-

ligion, morality, or prudence, yet many things in this ſection may be applied to practical inquiries and matters of faith, though it chiefly relates to knowledge or ſpeculations of reaſon.

1. Whatſoever clear ideas we can join together without inconſiſtency, and to be counted poſſible, becauſe almighty power can make whatſoever we can *conceive.*

2. From the mere poſſibility of a thing we cannot infer its actual exiſtence: nor from the non-exiſtence of it can we infer its impoſſibility.

Note, The idea of God ſeems to claim an exemption from this general rule; for if he be poſſible, he certainly exiſts, becauſe the very idea includes eternity, and he cannot begin to be: if he exiſt not, he is *impoſſible,* for the very ſame reaſon.

3. Whatſoever is evidently contained in the idea of any thing, may be affirmed of that thing with certainty. Reaſon is contained in the idea of a man; and exiſtence is contained in the idea of God; and therefore we may affirm God exiſts, and man is reaſonable.

4. It is impoſſible that the ſame thing ſhould be, and not be at the ſame time, and in the ſame reſpect. Thence it follows, that two contradictory ideas cannot be joined in the ſame part of the ſame ſubject, at the ſame time, and in the ſame reſpects; or, that two contradictory propoſitions can never be both true.

5. The more we converſe with any ſubject in its various properties, the better knowledge of it we are likely to attain; and by frequent and repeated inquiries and experiments, reaſonings and converſations about it, we confirm our true judgments of that thing, and correct our former miſtakes.

6. Yet after our utmoſt inquiries, we can never be aſſured by reaſon, that we know all the powers and properties of any finite being.

7. If finite beings are not adequately known by us, much leſs the things which are infinite: for it is of the nature of a finite mind not to be able to comprehend what is infinite.

8. We may judge and argue very juſtly and certainly concerning infinites, in ſome parts of them, or ſo far as our ideas reach, though the infinity of them hath

ſomething incomprehenſible in it. And this is built on the general rule following, viz.

9. Whatſoever is ſufficiently clear and evident ought not to be denied, though there are other things belonging to the ſame ſubject, which cannot be comprehended. I may affirm many things with certainty concerning human ſouls, their union with bodies, concerning the diviſibility of matter, and the attributes of God, though many things relating to them are darkneſs to us.

10. If any opinion propoſed has either no arguments, or equal arguments for and againſt it, we muſt remain in perfect ſuſpenſe about it, till convincing evidence appear on one ſide.

11. Where preſent neceſſity of action does not conſtrain us to determine, we ſhould not immediately yield up our aſſent to mere probable arguments, without a due reſerve, if we have any reaſonable hope of obtaining greater light and evidence on one ſide or the other: for when the balance of the judgment once reſigns its equilibrium or neutrality to a mere probable argument, it is too ready to ſettle itſelf on that ſide, ſo that the mind will not eaſily change that judgment, though bright and ſtrong evidence appear afterwards on the other ſide.

12. Of two opinions, if one has unanſwerable difficulties attending it, we muſt not reject it immediately, till we examine whether the contrary opinion has not difficulties as unanſwerable.

13. If each opinion has objections againſt it, which we cannot anſwer, or reconcile, we ſhould rather embrace that which has the leaſt difficulties in it, and which has the beſt arguments to ſupport it: and let our aſſent bear proportion to the ſuperior evidence.

14. If any doctrine hath very ſtrong and ſufficient light and evidence to command our aſſent, we ſhould not reject it becauſe there is an objection or two againſt it, which we are not able to anſwer; for upon this foot a common Chriſtian would be baffled out of every article of his faith, and muſt renounce even the dictates of his reaſon and his ſenſes; and the moſt learned man perhaps would hold but very few of them faſt; for ſome objections which attend the ſacred doctrine of the

eternity and the omnipreſence of God, and the philoſophical doctrines of light, atoms, ſpace, motion, &c. are hardly ſolvable to this day.

15. Where two extremes are propoſed, either in matters of ſpeculation or practice, and neither of them has certain and convincing evidence, it is generally the ſafeſt to take the middle way. Moderation is more likely to come near the truth than doubtful extremes. This is an excellent rule to judge of the characters and value of the greateſt part of perſons and things; for nature ſeldom deals in ſuperlatives. It is a good rule alſo by which to form our judgment in many ſpeculative controverſies; a reconciling medium in ſuch caſes does often beſt ſecure truth as well as peace.

16. When two different propoſitions have *each* a very ſtrong and cogent evidence, and do not plainly appear inconſiſtent, we may believe both of them, though we cannot at preſent ſee the way to reconcile them. Reaſon, as well as our own conſciouſneſs, aſſures us, that the will of man is free, and that multitudes of human actions are in that reſpect contingent; and yet reaſon and ſcripture aſſures us, that God foreknows them all, and this implies a certain fatality. Now though learned men have not to this day hit on any ſo clear and happy method as is deſired to reconcile theſe propoſitions; yet ſince we do not ſee a plain inconſiſtency in them, we juſtly believe them both, becauſe their evidence is great.

17. Let us not therefore too ſuddenly determine in difficult matters, that two things are utterly inconſiſtent: for there are many propoſitions which may appear inconſiſtent at firſt, and yet afterwards we find their conſiſtency, and the way of reconciling them may be made plain and eaſy: as alſo, there are other propoſitions which may appear conſiſtent at firſt, but after due examination we find their inconſiſtency.

18. For the ſame reaſon we ſhould not call thoſe difficulties utterly inſolvable, or thoſe objections unanſwerable, which we are not preſently able to anſwer: time and diligence may give farther light.

19. In ſhort, if we will ſecure ourſelves from error, we ſhould not be too frequent or haſty in aſſerting the

certain conſiſtency or inconſiſtency, the abſolute univerſality, neceſſity, or impoſſibility of things, where there is not the brighteſt evidence. He is but a young and raw philoſopher, who, when he ſees two particular ideas evidently agree, immediately aſſerts them to agree univerſally, to agree neceſſarily, and that it is impoſſible it ſhould be otherwiſe: or when he ſees evidently that two particular ideas happen to diſagree, he preſently aſſerts their conſtant and natural inconſiſtency, their utter impoſſibility of agreement, and calls every thing contrary to his opinion abſurdity and nonſenſe. A true philoſopher will affirm or deny with much caution or modeſty, unleſs he has thoroughly examined, and found the evidence of every part of his aſſertion exceeding plain.

20. Let us have a care of building our aſſurance of any important point of doctrine upon one ſingle argument, if there are more to be obtained. We ſhould not ſlight and reject all other arguments which ſupport the ſame doctrine, leſt if our favourite argument ſhould be refuted, and fail us we ſhould be tempted to abandon that important principle of truth. I think this was a very culpable practice in Deſcartes, and ſome of his followers, who, when he had found out the argument for the exiſtence of God derived from the idea of a moſt perfect and ſelf-exiſtent being, he ſeemed to deſpiſe and abandon all other arguments againſt atheiſm.

21. If we happen to have our chief arguments for any opinion refuted, we ſhould not immediately give up the opinion itſelf; for perhaps it may be a truth ſtill, and we may find it to be juſtly ſupported by other arguments, which we might once think weaker, or perhaps by new arguments which we knew not before.

22. We ought toeſteem that to be ſufficient evidence of a propoſition, where both the kind and the force of the arguments or proofs are as great as the nature of the thing admits, and as the neceſſity or exigencies of the caſe requires. So if we have a credible and certain teſtimony that Chriſt roſe from the dead, it is enough; we are not to expect mathematical or ocular demonſtration for it, at leaſt in our day.

23. Though we ſhould ſeek what proofs may be at-

tained of any propoſition, and we ſhould receive any number of arguments which are juſt and evident for the confirmation of the ſame truth; yet we muſt not judge of the truth of any propoſition by the number of arguments which are brought to ſupport it, but by the ſtrength and weight of them: a building will ſtand firmer and longer on four large pillars of marble, than on ten of ſand, or earth, or timber.

24. Yet where certain evidence is not to be found or expected, a conſiderable number of probable arguments carry great weight with them, even in matters of ſpeculation. That is a probable hypotheſis in philoſophy or in theology, which goes fartheſt towards the ſolution of many difficult queſtions ariſing on any ſubject.

SECT. III.

Principles and rules of Judgment in Matters of Morality and Religion.

HERE it may be proper, in the firſt place, to mention a few definitions of words or terms.

By matters of morality and religion I mean thoſe things which relate to our duty to God, ourſelves, or our fellow-creatures.

Moral good, or virtue, or holineſs, is an action or temper conformable to the rule of our duty. Moral evil, or vice, or ſin, is an action or temper unconformable to the rule of our duty, or a neglect to fulfil it.

Note, The words vice or virtue chiefly imply the relation of our actions to men and this world: ſin and holineſs rather imply their relation to God and the other world.

Natural good is that which gives us pleaſure or ſatisfaction. Natural evil is that which gives us pain or grief.

Happineſs conſiſts in the attainment of the higheſt

and moſt laſting natural good. Miſery conſiſts in ſuffering the higheſt and moſt laſting natural evil; that is, in ſhort, heaven or hell.

Though this be a juſt account of perfect happineſs and perfect miſery, yet whatſoever pain overbalances pleaſure, there is a degree of miſery; and whereſoever pleaſure overbalances pain, there is a degree of happineſs.

I proceed now to lay down ſome principles and rules of judgment in matters of morality and religion.

1. The will of our Maker, whether diſcovered by reaſon or revelation, carries the higheſt authority with it, and is therefore the higheſt rule of duty to intelligent creatures; a conformity or non-conformity to it determines their actions to be morally good or evil.

2 Whatſoever is really an immediate duty towards ourſelves, or towards our fellow-creatures, is more remotely a duty to God; and therefore in the practice of it we ſhould have an eye to the will of God as our rule, and to his glory as our end.

3. Our wiſe and gracious Creator has cloſely united our duty and our happineſs together; and has connected ſin, or vice, and puniſhment; that is, he has ordained that the higheſt natural good and evil ſhould have a cloſe connection with moral good and evil, and that both in the nature of things, and by his own poſitive appointment.

4. Conſcience ſhould ſeek all due information in order to determine what is duty, and what is ſin, becauſe happineſs and miſery depend upon it.

5. On this account our inclination to preſent temporal good, and our averſion to preſent temporal evil, muſt be wiſely overbalanced by the conſideration of future and eternal good or evil, that is, happineſs or miſery, And for this reaſon we ſhould not omit a duty, or commit a ſin, to gain any temporal good, or to avoid any temporal evil.

6. Though our natural reaſon in a ſtate of innocence might be ſufficient to find out thoſe duties which were neceſſary for an innocent creature, in order to abide in the favour of his Maker, yet in a fallen ſtate our natural reaſon is by no means ſufficient to find out all that is

neceſſary to reſtore a ſinful creature to the divine favour.

7. Therefore God has condeſcended in various ages of mankind to reveal to ſinful men what he requires of them in order to their reſtoration, and has appointed in his word ſome peculiar matters of faith and practice, in order to their ſalvation. This is called revealed religion, as the things knowable concerning God, and our duty by the light of nature are called natural religion.

8. There are alſo many parts of morality, and natural religion, or many natural duties relating to God, to ourſelves, and to our neighbours, which would be exceeding difficult and tedious for the bulk of *mankind* to find out and determine by natural reaſon; therefore it has pleaſed God, in this ſacred book of divine revelation, to expreſs the moſt neceſſary duties of this kind in a very plain and eaſy manner, and make them intelligible to ſouls of the loweſt capacity; or they may be very eaſily derived thence by the uſe of reaſon.

9. As they are ſome duties much more neceſſary and more important than others are, ſo ever duty requires our application to underſtand and practiſe it in proportion to its neceſſity and importance.

10. Where two duties ſeem to ſtand in oppoſition to each other, and we cannot practiſe both, the leſs muſt give way to the greater, and the omiſſion of the leſs is not ſinful. So ceremonial laws give way to moral: God will have mercy and not ſacrifice.

11. In duties of natural religion, we may judge of the different degrees of their neceſſity and importance by reaſon, according to their greater or more apparent tendency to the honour of God, and the good of men: but in matters of revealed religion, it is only divine revelation can certainly inform us what is moſt neceſſary and moſt important; yet we may be aſſiſted alſo in that ſearch by the exerciſes of reaſon.

12. In actions wherein there may be ſome ſcruple about the duty or lawfulneſs of them, we ſhould chuſe always the ſafeſt ſide, and abſtain as far as we can from the practice of things whoſe lawfulneſs we ſuſpect.

13. Points of the greateſt importance in human life,

or in religion, are generally the moſt evident, both in the nature of things, and in the word of God; and where points of faith or practice are exceeding difficult to find out, they cannot be exceeding important. This propoſition may be proved by the goodneſs and faithfulneſs of God, as well as by experience and obſervation.

14. In ſome of the outward practices and forms of religion, as well as human affairs, there is frequently a preſent neceſſity of ſpeedy action one way or other: in ſuch a caſe, having ſurveyed arguments on both ſides, as far as our time and circumſtances admit, we muſt guide our practice by thoſe reaſons which appear moſt probable, and ſeem at that time to overbalance the reſt yet always reſerving room to admit farther light and evidence, when ſuch occurrences return again. It is a preponderation of circumſtantial arguments that muſt determine our actions in a thouſand occurrences.

15. We may alſo determine upon the probable arguments where the matter is of ſmall conſequence, and would not anſwer the trouble of ſeeking after certainty, Life and time are more precious than to have a large ſhare of them laid out in ſcrupulous inquiries, whether ſmoaking tobacco, or wearing a periwig be lawful or no.

16. In affairs of greater importance, and which may have a long, laſting, and extenſive influence on our future conduct or happineſs, we ſhould not take up with probabilities, if certainty may be attained. Where there is any doubt on the mind, in ſuch caſes we ſhould call in the aſſiſtance of all manner of circumſtances, reaſons, motives, conſequences on all ſides: we muſt wait longer, and with earneſt requeſt ſeek human and divine advice before we fully determine our judgment and our practice, according to the Roman ſentence, *Quod ſtatuendum eſt ſemel deliberandum eſt diu.* We ſhould be long in conſidering what we muſt determine once for all.

SECT. IV.

Principles and Rules of Judgment in Matters of human Prudence.

THE great deſign of prudence, as diſtinct from morality and religion, is to determine and manage every affair with decency, and to the beſt advantage.

This is decent, which is agreeable to our ſtate, condition, or circumſtances, whether it be in behaviour, diſcourſe, or action.

That is advantageous, which attains the moſt and beſt purpoſes, and avoids the moſt and greateſt *inconveniencies*.

As there is infinite variety in the circumſtances of perſons, things, actions, times and places, ſo we muſt be furniſhed with ſuch general rules as are accommodable to all this variety by a wiſe judgment and diſcretion: for what is an act of conſummate prudence in ſome times, places and circumſtances, would be conſummate folly in others. Now theſe rules may be ranged in the following manner.

1. Our regard to perſons or things ſhall be governed by the degrees of concernment we have with them, the relation we have to them, or the expectations we have from them. Theſe ſhould be the meaſures by which we ſhould proportion our diligence and application in any thing that relates to them.

2. We ſhould always conſider whether the thing we purſue be attainable; whether it be worthy our purſuit; whether it be worthy the degree of purſuit; whether it be worthy of the means uſed in order to attain it. This rule is neceſſary both in matters of knowledge and matters of practice.

3. When the advantages and diſadvantages, conveniencies and inconveniencies of any action are balanced together, we muſt finally determine on that ſide which has the ſuperior weight; and the ſooner in things which are neceſſarily and ſpeedily to be done or determined.

4. If advantages and diſadvantages in their own nature are equal, then thoſe which are moſt certain or likely, as to the even, ſhould turn the ſcale of our judgment, and determine our practice.

5. Where the improbabilities of ſucceſs or advantage are greater than the probabilities, it is not prudence to act or venture. It is proper to inquire whether this be not the caſe in almoſt all lotteries; for they that hold ſtakes will certainly ſecure part to themſelves; and only the remainder being divided into prizes muſt render the improbability of gain to each adventurer greater than the probability.

6. We ſhould not deſpiſe or neglect any real advantage, and abandon the purſuit of it, though we cannot attain all the advantages that we deſire. This would be to act like children, who are fond of ſomething which ſtrikes their fancy moſt, and ſullen and regardleſs of every thing elſe, if they are not humoured in that fancy.

7. Though a general knowledge of things be uſeful in ſcience and in human life, yet we ſhould content ourſelves with a more ſuperficial knowledge of thoſe things which have the leaſt relation to our chief end and deſign.

8. This rule holds good alſo in matters of buſineſs and practice, as well as in matters of knowledge; and therefore we ſhould not graſp at every thing, leſt in the end we attain nothing. Perſons that either by an inconſtancy of temper, or by a vain ambition, will purſue every ſort of art and ſcience, ſtudy and buſineſs, ſeldom grow excellent in any one of them: and projectors who form twenty ſchemes, ſeldom uſe ſufficient application to finiſh one of them, or make it turn to good account.

9. Take heed of delaying and trifling amongſt the means inſtead of reaching at the end. Take heed of waſting a life in mere ſpeculative ſtudies, which is called to action and employment: dwell not too long in philoſophical, mathematical, or grammatical parts of learning, when your chief deſign is law, phyſic, or divinity Do not ſpend the day in gathering flowers by the way ſide, leſt night come upon you before you

6. Conſider farther, whether the report were capable of being eaſily refuted at firſt if it had not been true; if ſo, this confirms the teſtimony.

7. Inquire yet again, whether there has been a conſtant, uniform tradition and belief of this matter from the very firſt age or time when the thing was tranſacted, without any reaſonable doubts or contradictions. Or,

8. If any part of it hath been doubted by any conſiderable perſons, whether it has been ſearched out and afterwards confirmed, by having all the ſcruples and doubts removed. In either of theſe caſes the teſtimony becomes more firm and credible.

9. Inquire on the other hand, whether there are any conſiderable objections remaining againſt the belief of that propoſition ſo atteſted. Whether there be any thing very improbable in the thing itſelf. Whether any concurrent circumſtances ſeem to oppoſe it. Whether any perſon or perſons give a poſitive and plain teſtimony againſt it. Whether they are equally ſkilful, and equally faithful as thoſe who aſſert it. Whether there be as many or more in number; and whether they might have any ſecret biaſs or influence on them to contradict it.

10. Sometimes the entire ſilence of a thing may have ſomething of weight towards the deciſion of a doubtful point of hiſtory, or a matter of human faith, viz. where the fact is pretended to be public, if the perſons who are ſilent about it were ſkilful to obſerve, and could not but know ſuch an occurrence; if they were engaged by principle or by intereſt to have declared it: if they had fair opportunity to ſpeak of it: and theſe things may tend to make the matter ſuſpicious, if it be not very well atteſted by poſitive proof.

11. Remember that in ſome reports there are more marks of falſehood than of truth, and in others there are more marks of truth than falſehood. By a compariſon of all theſe things together and putting every argument on one ſide and the other into the balance, we muſt form as good a judgment as we can which ſide preponderates; and give a ſtrong or feeble aſſent or diſſent, or withhold our judgments entirely, according

to greater or leſſer evidence, according to more plain or dubious marks of truth or falſehood.

12. *Obſerve*, that in matters of human teſtimony there is oftentimes a great mixture of truth and falſehood in the report itſelf: ſome parts of the ſtory may be perfectly true, and ſome utterly falſe; and ſome may have ſuch a blended confuſion of circumſtances which are a little wrapt aſide from the truth, and miſrepreſented, that there is need of good ſkill and accuracy to form a judgment concerning them, and determine which part is true, and which is falſe. The whole report is not to be believed, becauſe ſome parts are indubitable true, nor the whole to be rejected, becauſe ſome parts are as evident falſehoods.

We may draw two remarkable obſervations from this ſection.

Obſerve. I. How certain is the truth of the Chriſtian religion, and particularly of the reſurrection of Chriſt, which is a matter of fact on which chriſtianity is built; We have almoſt all the concurrent evidences that can be derived from human teſtimony, joining to confirm this glorious truth. The fact is not impoſſible; concurrent circumſtances caſt a favourable aſpect on it; it was foretold by one who wrought miracles, and therefore not unlikely, nor unexpected: the apoſtles and firſt diſciples were eye and ear-witneſſes, for they converſed with their riſen Lord; they were the moſt plain, honeſt men in themſelves: the temptations of worldly intereſts did rather diſcourage their belief and report of it: they all agreed in this matter, though they were men of different characters; Phariſees and fiſhermen, and publicans, men of Judea and Galilee, and perhaps Heathens, who were early converted: the thing might eaſily have been diſproved, if it were falſe: it hath been conveyed by conſtant tradition and writing down to our times; thoſe who at firſt doubted were afterwards convinced by certain proofs; nor have any pretended to give any proof of the contrary, but merely denied the fact with impudence in oppoſition to all theſe evidences.

Obſerv. II. How weak is the faith which is due to a multitude of things in ancient human hiſtory! For though many of theſe *criteria*, or marks of credibility,

are found plainly in the more general and public facts, yet as to a multitude of particular facts and circumſtances, how deficient are they in ſuch evidence as ſhould demand our aſſent! Perhaps there is nothing that ever was done in all paſt ages, and which was not a public fact, ſo well atteſted as the reſurrection of Chriſt.

SECT. VI.

Principles and Rules of Judgment in Matters of divine Teſtimony.

AS human teſtimony acquaints us with matter of fact, both paſt and preſent, which lie beyond the reach of our own perſonal notice; ſo divine teſtimony is ſuited to inform us both of the nature of things, as well as matters of fact, and of things future, as well as preſent or paſt.

Whatſoever is dictated to us by God himſelf, or by men who are divinely inſpired, muſt be believed with full aſſurance. Reaſon demands us to believe whatſoever divine revelation dictates: for God is perfectly wiſe, and cannot be deceived; he is faithful and good, and will not deceive his creatures: and when reaſon has found out the certain marks or credentials of divine teſtimony to belong to any propoſition, there remains then no farther inquiry to be made, but only to find out the true ſenſe and meaning of that which God has revealed, for reaſon itſelf demands the belief of it.

Now divine teſtimony or revelation requires theſe following credentials.

1. That the propoſitions or doctrines revealed be not inconſiſtent with reaſon; for intelligent creatures can never be bound to believe real inconſiſtencies. Therefore we are ſure the Popiſh doctrine of tranſubſtantiation is not a matter of divine revelation, becauſe

it is contrary to all our ſenſes and our reaſon, even in their proper exerciſes.

God can dictate nothing but what is worthy of himſelf, and agreeable to his own nature and divine perfections. Now many of theſe perfections are diſcovered by the light of reaſon, and whatſoever is inconſiſtent with theſe perfections cannot be a divine revelation.

But let it be noted, that in matters of practice towards our fellow-creatures, God may command us to act in a manner contrary to what reaſon would direct antecedent to that command. So Abraham was commanded to offer up his ſon a ſacrifice; the Iſraelites were ordered to borrow of the Egyptians without paying them, and to plunder and ſlay the inhabitants of Canaan: becauſe God has a ſovereign right to all things, and can with equity diſpoſſeſs his creatures of life, and every thing which he has given them, and eſpecially ſuch ſinful creatures as mankind; and he can appoint whom he pleaſes to be the inſtruments of this juſt diſpoſſeſſion or deprivation. So that theſe divine commands are not really inconſiſtent with right reaſon: for whatſoever is ſo, cannot be believed where that inconſiſtency appears.

2. Upon the ſame account the whole doctrine of revelation muſt be conſiſtent with itſelf; every part of it muſt be conſiſtent with each other; and though in points of practice latter revelation may repeal or cancel former divine laws, yet in matters of belief no latter revelation can be inconſiſtent with what has been heretofore revealed.

3. Divine revelation muſt be confirmed by ſome divine and ſupernatural appearances, ſome extraordinary ſigns or tokens, viſions, voices, or miracles wrought, or prophecies fulfilled. There muſt be ſome demonſtrations of the preſence and power of God, ſuperior to all the powers of nature, or the ſettled connection which God, as creator, has eſtabliſhed among his creatures in this viſible world.

4. If there are any ſuch extraordinary and wonderful appearances and operations brought to conteſt with, or to oppoſe divine revelation, there muſt, and always will be ſuch a ſuperiority on the ſide of that revelation.

which is truly divine, as to manifeſt that God is there. This was the cauſe when the Egyptian ſorcerers contended with Moſes. But the wonders which Moſes wrought did ſo far tranſcend the power of the magicians, as made them confeſs, It was the finger of God.

5. Theſe divine appearances or atteſtations to revelation muſt be either known to ourſelves, by our own perſonal obſervation of them, or they muſt be ſufficiently atteſted by others, according to the principles and rules by which matters of human faith are to be judged in the foregoing ſection.

Some of thoſe, who lived in the nations and ages where miracles were wrought, were eye and ear-witneſſes of the truth and divinity of the revelation; but we, who live in theſe diſtant ages, muſt have them derived down to us by juſt and inconteſtible hiſtory and tradition. We alſo, even in theſe diſtant times, may ſee the accompliſhments of ſome ancient predictions and thereby obtain that advantage towards the confirmation of our faith in divine revelation beyond what thoſe perſons enjoyed who lived when the predictions were pronounced.

6. There is another very conſiderable confirmation of divine teſtimony: and that is, when the doctrines themſelves, either on the publication or the belief of them produced ſupernatural effects. Such were the miraculous powers which were communicated to believers in the firſt ages of chriſtianity, the converſion of the Jews or Gentiles, the amazing ſucceſs of the goſpel of Chriſt without human aid, its power in changing the hearts and lives of ignorant and vicious Heathens, and wicked and profane creatures in all nations, and filling them with a ſpirit of virtue, piety, and goodneſs. Whereſoever perſons have found this effect in their own hearts, wrought by a belief of the goſpel of Chriſt, they have a witneſs in themſelves of the truth of it, and abundant reaſon to believe it divine.

Of the difference between reaſon and revelation, and in what ſenſe the latter is ſuperior, ſee more in Chap. II. Sect. 9. and chap. IV. Direct. 6.

SECT. VII.

Principles and Rules of Judging concerning Things paſt, preſent, and to come, by the mere Uſe of Reaſon.

THOUGH we attain the greateſt aſſurance of things paſt and future by divine faith, and learning many matters of fact, both paſt and preſent, by human faith, yet reaſon alſo may, in a good degree, aſſiſt us to judge of matters of fact both paſt, preſent, and to come, by the following principles.

1. There is a ſyſtem of beings round about us, of which we ourſelves are a part, which we call the world; and in this world there is a courſe of nature, or a ſettled order of cauſes, effects, antecedents, concomitants, conſequences, &c. from which the author of nature doth not vary but upon very important occaſions.

Where antecedents, concomitants and conſequences, cauſes and effects, ſigns and things ſignified, ſubjects and adjuncts are neceſſarily connected with each other, we may infer the cauſes from the effects, and the effects from cauſes, the antecedents from the conſequences, as well as conſequences from antecedents, &c. and thereby be pretty certain of many things both paſt, preſent, and to come. It is by this principle, that aſtronomers can tell what day and hour the ſun and moon were eclipſed five hundred years ago, and predict all future eclipſes as long as the world ſhall ſtand. They can tell preciſely at what minute the ſun riſes or ſets this day at Pequin in China, or what attitude the dog-ſtar had at midnight or midnoon in Rome, on the day when Julius Cæſar was ſlain. Gardeners, upon the ſame principle, can foretel the months, when every plant will be in bloom, and the ploughman knows the weeks of harveſt: we are ſure, if there be a chicken, there was an egg: if there be a rainbow, we are certain it rains not far off: if we behold a tree growing on the earth, we know it has naturally a root under ground.

3. Where there is a neceſſary connection between

cauſes and effects, antecedents and conſequences, ſigns and things ſignified, we know alſo, that like cauſes will have like effects, and proportionable cauſes will have proportionable effects, contrary cauſes will have contrary effects; and obſerving men may form many judgments by the rules of ſimilitude and proportion, where the cauſes, effects, &c. are not entirely the ſame.

4. Where there is but a probable and uncertain connection between antecedents, concomitants and conſequences, we can give but a conjecture, or a probable determination. If the clouds gather, or the weather-glaſs ſinks, we ſuppoſe it will rain: if a man ſpit blood frequently with coughing, we ſuppoſe his lungs are hurt: if very dangerous ſymptoms appear, we expect his death.

5. Where cauſes operate freely, with a liberty of indifference to this or the contrary, there we cannot certainly know what the effects will be: for it ſeems to be contingent, and the certain knowledge of it belongs only to God. This is the caſe in the greateſt part of human actions.

6. Yet wiſe men by a juſt obſervation of human nature, will give very probable conjectures in this matter, alſo concerning things paſt, or things future, becauſe human nature in all ages and nations has ſuch a conformity to itſelf. By a knowledge of the tempers of men and their preſent circumſtances, we may be able to give a happy gueſs what their conduct will be, and what will be the event, by an obſervation of the like caſes in former times. This made the emperor Marcus Antoninus to ſay, "By looking back into hiſtory, and conſidering the fate and revolutions of governments, you will be able to form a gueſs, and almoſt prophecy upon the future. For things paſt, preſent, and to come, are ſtrangely uniform, and of a colour; and are commonly caſt in the ſame mould. So that upon the matter, forty years of human life may ſerve for a ſample of ten thouſand." Collier's Antoninus, Book VII. Sect. 50.

7. There are alſo ſome other principles of judging concerning the paſt actions of men in former ages, beſides books, hiſtories and traditions, which are mediums

of conveying human teſtimony; as we may infer the ſkill and magnificence of the ancients, by ſome fragments of their ſtatues, and ruins of their buildings. We know what Roman legions came into Great Britain by numbers of bricks dug out of the earth in ſome parts of the iſland, with the marks of ſome particular legion upon them, which muſt have been employed there in brick-making. We rectify ſome miſtakes in hiſtory by ſtatues, coins, old altars, utenſils of war, &c. We confirm or diſprove ſome pretended traditions and hiſtorical writings, by medals, images, pictures, urns, &c.

Thus I have gone through all thoſe particular objects of our judgment which I firſt propoſed, and have laid down principles and rules by which we may ſafely conduct ourſelves therein. There is a variety of other objects concerning which we are occaſionally called to paſs a judgment, viz. The characters of perſons, the value and worth of things, the ſenſe and meaning of particular writers, matters of wit, oratory, poeſy, matters of equity in judicial courts, matters of traffic and commerce between man and man, which would be endleſs to enumerate. But if the general and ſpecial rules of judgment which have been mentioned in theſe two laſt chapters are treaſured up in the mind, and wrought into the very temper of our ſouls in our younger years, they will lay a foundation for juſt and regular judgment concerning a thouſand ſpecial occurrences in the religious, civil and learned life.

THE

THIRD PART

OF

L O G I C.

OF REASON AND SYLLOGISM.

AS the firſt work of the mind is perception, whereby our ideas are framed, and the ſecond is judgment, which joins or disjoins our ideas, and forms a propoſition, ſo the third operation of the mind is *reaſoning*, which joins ſeveral propoſitions together; and makes a ſyllogiſm, that is, an argument whereby we are wont to infer ſomethings that is leſs known, from truths which are more evident.

In treating of this ſubject, let us conſider more particularly.

1. The nature of a ſyllogiſm, and the parts of which it is compoſed.
2. The ſeveral kinds of ſyllogiſms, with particular rules relating to them.
3 The doctrine of ſyllogiſms, of falſe reaſonings, together with the means of avoiding them, and the manner of ſolving or anſwering them.
4. Some general rules to direct our reaſoning.

CHAP. I.

OF THE NATURE OF A SYLLOGISM, AND THE PARTS OF WHICH IT IS COMPOSED.

IF the mere perception and compariſon of two ideas would ſhew us whether they agree or diſagree; then all rational propoſitions would be matters of intelligence, or firſt principles, and there would be no uſe of reaſoning, or drawing any conſequences. It is the narrowneſs of the human mind which introduces the neceſſity of reaſoning. When we are unable to judge of the truth or falſehood of a propoſition in an immediate manner, by the mere contemplation of its ſubject and predicate, we are thus conſtrained to uſe a medium, and to compare each of them with ſome third idea, that by ſeeing how far they agree or diſagree with it, we may be able to judge how far they agree or diſagree among themſelves: as, if there are two lines A and B, and I know not whether they are equal or no, I take a third line C, or an inch, and apply it to each of them; if it agree with them both, then I infer that A and B are equal; but if it agree with one and not with the other, then I include A and B are unequal: if it agree with neither of them, there can be no compariſon.

So if the queſtion be, whether God muſt be worſhipped, we ſeek a third idea, ſuppoſe the idea of a Creator, and ſay.

Our Creator muſt be worſhipped.

God is our Creator.

Therefore God muſt be worſhipped.

The compariſon of this third idea, with the two diſtinct parts of the queſtion, uſually requires two propoſitions, which are called the premiſſes: the third propoſition, which is drawn from them, is the concluſion, wherein the queſtion itſelf is anſwered, and the ſubject and predicate joined either in the negative or the affirmative.

The foundation of all affirmative concluſions is laid in this general truth, that ſo far as two propoſed ideas agree to any third idea, they agree alſo among them-

ſelves. The character of a creator agrees to God, and worſhip agrees to a creator, therefore worſhip agrees to God.

The foundation of all negative convulſions is this, that where one of the two propoſed ideas agrees with a third idea, and the other diſagrees with it, they muſt needs diſagree ſo far alſo with one another; as, if no ſinners are happy, and if angels are happy, then angels are not ſinners.

Thus it appears what is the ſtrict and juſt notion of a ſyllogiſm: it is a ſentence or argument made up of three propoſitions ſo diſpoſed, as that the laſt is neceſſarily inferred from thoſe which go before, as in the inſtances which have been juſt mentioned.

In the conſtitution of a ſyllogiſm two things may be conſidered, (viz.) the matter and the form of it.

The matter of which a ſyllogiſm is made up, is three propoſitions; and theſe three propoſitions are made up of three ideas, or terms variouſly joined. The three terms are called the remote matter of a ſyllogiſm; and the three propoſitions the *proxime* or immediate matter of it.

The three terms are named the major, the minor, and the middle.

The predicate of the concluſion is called the major term, becauſe it is generally of a larger extenſion than the minor term, or the ſubject. The major and minor terms are called the extremes.

The middle term is the third idea invented and *diſ*poſed in two propoſitions in ſuch a manner as to ſhew the connection between the major and minor term in the concluſion; for which reaſon the middle term itſelf is ſometimes called the argument.

The propoſition which contains the predicate of the concluſion, connected with the middle term, is uſually called the major propoſition, whereas the minor propoſition connects the middle term with the ſubject of the concluſion, and is ſometimes called the aſſumption.

Note, This exact diſtinction of the ſeveral parts of a ſyllogiſm, and of the major and minor terms connected with the middle term, in the major and minor propoſitions, does chiefly belong to ſimple or categorical ſyllo-

giſms, of which we ſhall ſpeak in the next chapter, though, all ſyllogiſms, whatſoever have ſomething analogical to it.

Note farther, that the major propoſition is generally placed firſt, and the minor ſecond, and the concluſion in the laſt place, where the ſyllogiſm is regularly compoſed and repreſented.

The form of a ſyllogiſm is the framing and diſpoſing of the premiſes according to art, or juſt principles of reaſoning, and the regular inference of the concluſion from them.

The art of reaſoning, or inferring one thing from another, is generally expreſſed and known by the particle *therefore*, when the argument is formed according to the rules of art; though in common diſcourſe or writing, ſuch caſual particles as for, becauſe, manifeſt the act of reaſoning, as well as the illative particles then and therefore: and whereſoever any of theſe words are uſed, there is a perfect ſyllogiſm expreſſed or implied, though perhaps the three propoſitions do not appear, or are not placed in regular forms.

CHAP. II.

OF THE VARIOUS KINDS OF SYLLOGISMS, WITH PARTICULAR RULES RELATING TO THEM.

SYLLOGISMS are divided into various kinds either according to the queſtion which is proved by them, according to the nature and compoſition of them, or according to the middle term, which is uſed to prove the queſtion.

SECT. I.

Of univerſal and particular Syllogiſms, both negative and affirmative.

ACCORDING to the queſtion which is to be proved, ſo ſyllogiſms are divided into univerſal

affirmitive, univerſal negative, particular affirmative, and particular negative. This is often called a diviſion of ſyllogiſms drawn from the concluſions; for ſo many ſorts of concluſions there may be which are marked with the letter A, E, I, O.

In an univerſal affirmative ſyllogiſm, one idea is proved univerſally to agree with another, and may be univerſally affirmed of it, as every ſin deſerves death; every unlawful wiſh is a ſin; therefore every unlawful wiſh deſerves death.

In an univerſal negative ſyllogiſm, one idea is proved to diſagree with another idea univerſally, and may be thus denied of it, as, no injuſtice can be pleaſing to God; all perſecution for the ſake of conſcience is injuſtice; therefore no perſecution for conſcience ſake can be pleaſing to God.

Particular affirmitive, and particular negative ſyllogiſms may be eaſily underſtood by what is ſaid of univerſals, and there will be ſufficient examples given of all theſe in the next ſection.

The general principle upon which theſe univerſal and particular ſyllogiſms are founded is this; *whatſoever is* affirmed or denied univerſally of any idea, may be affirmed or denied of all the particular kinds of beings which are contained in the extenſion of that univerſal idea. So the deſert of death is affirmed univerſally of ſin, and an unlawful wiſh is one particular kind of ſin which is contained in the univerſal idea of *ſin*; *there*fore the deſert of death may be affirmed concerning an unlawful wiſh: and ſo of the reſt.

Note, In the doctrine of ſyllogiſms, a ſingular and an indefinite propoſition are ranked among univerſals, as was before obſerved in the doctrine of propoſitions.

SECT. II.

Of plain, ſimple Syllogiſms and their rules.

THE next diviſion of ſyllogiſms is into ſingle and compound. This is drawn from the nature and compoſition of them.

Single ſyllogiſms are made up of three propoſitions: compound ſyllogiſms contain more than three propoſitions, and may be formed into two or more ſyllogiſms.

Single ſyllogiſms, for diſtinction's ſake, may be divided into * ſimple, complex and conjunctive.

Thoſe are properly called ſimple or categorical ſyllogiſms, which are made up of three plain, ſingle, or categorical propoſitions, wherein the middle term is evidently and regularly joined with one part of the queſtion in the major propoſition, and with the other in the minor, whence there follows a plain ſingle concluſion; as, every human virtue is to be ſought with diligence; prudence is a human virtue; therefore prudence is to be ſought diligently.

Note, Though the terms of propoſitions may be complex; yet where the compoſition of the whole argument is thus plain, ſimple, and regular, it is properly called a ſimple ſyllogiſm, ſince the complection does not belong to the ſyllogiſtic form of it.

Simple ſyllogiſms have ſeveral rules belonging to them, which being obſerved, will generally ſecure us from falſe inferences: but theſe rules being founded on four general axioms, it is neceſſary to mention theſe axioms before-hand, for the uſe of thoſe who will enter into the ſpeculative reaſon of all theſe rules.

Axiom 1. Particular propoſitions are contained in univerſals, and may be inferred from them; but univerſals are not contained in particulars, nor can be inferred from them

Axiom 2 In all univerſal propoſitions, the ſubject is univerſal: in all particular propoſitions, the ſubject is particular.

Axiom 3. In all affirmative propoſitions, the predicate has no greater extenſion than the ſubject; for its extenſion is reſtrained by the ſubject, and therefore it is always to be eſteemed as a particular idea. It is by mere accident, if it ever be taken univerſally, and cannot happen but in ſuch univerſal or ſingular propoſitions as are reciprocal.

* As ideas and propoſitions are divided into ſingle and compound, and ſingle are ſubdivided into ſimple and complex; ſo there are the ſame diviſions and ſub-diviſions applied to ſyllogiſms.

Axiom. 4. The predicate of a negative propoſition is always taken univerſally, for in its whole extenſion it is denied of the ſubject. If we ſay no ſtone is vegetable, we deny all ſorts of vegetation concerning ſtones.

The rules of ſimple, regular ſyllogiſms are theſe.

Rule I. *The middle term muſt not be taken twice particularly, but once at leaſt univerſally.* For if the middle term be taken for two different parts or kinds of the ſame univerſal idea, then the ſubject of the concluſion is compared with one of theſe parts, and the predicate with another part, and this will never ſhew whether that ſubject and predicate agree or diſagree: there will then be four diſtinct terms in the ſyllogiſm, and the two parts of the queſtion will not be compared with the ſame third idea; as if I ſay, ſome men are pious, and ſome men are robbers, I can never infer that ſome robbers are pious, for the middle term, men, being taken twice particularly, it is not the ſame men who are ſpoken of in the major and minor propoſitions.

Rule II. *The terms in the concluſion muſt never be taken more univerſally than they are in the premiſes.* The reaſon is derived from the firſt axiom, that generals can never be inferred from particulars.

Rule III. *A negative concluſion cannot be proved by two affirmative premiſes.* For when the two terms of the concluſions are united or agree to the middle term, it does not follow by any means that they diſagree with one another.

Rule IV. *If one of the premiſes be negative, the concluſion muſt be negative.* For if the middle term be denied of either part of the concluſion, it may ſhew that the terms of the concluſion diſagree, but it can never ſhew that they agree.

Rule V. *If either of the premiſes be particular, the concluſion muſt be particular.* This may be proved for the moſt part from the firſt axiom.

Theſe two laſt rules are ſometimes united in this ſingle ſentence. The concluſion always follows the weaker part of the premiſes. Now negatives and particulars are counted inferior to affirmatives and univerſals.

Rule VI. *From two negative premiſes nothing can be concluded.* For they ſeparate the middle term both from the ſubject and predicate of the concluſion, and when two ideas diſagree to a third, we cannot infer that they either agree or diſagree with each other.

Yet where the negation is a part of the middle term, the two premiſes may look like negatives according to the words, but one of them is affirmative in ſenſe; as, what has no thought cannot reaſon; but a worm has no thought; therefore a worm cannot reaſon. The minor propoſition does really affirm the middle term concerning the ſubject. *(viz.)* a worm is what has no thought, and thus it is properly in this ſyllogiſm an affirmative propoſition.

Rule VII. *From two particular premiſes nothing can be concluded.* This rule depends chiefly on the firſt axiom.

A more laborious and accurate proof of theſe rules, and the derivation of every part of them in all poſſible caſes, from the foregoing axioms, require ſo much time, and are of ſo little importance to aſſiſt the right uſe of reaſon, that it is needleſs to inſiſt longer upon them here. See all this done ingeniouſly in the Logic, called the Art of Thinking, Part III. Chap. III. &c.

SECT. III.

Of the Modes and Figures of ſimple Syllogiſms.

SIMPLE ſyllogiſms are adorned and ſurrounded in the common books of Logic with a variety of inventions about modes and figures, wherein by the artificial contexture of the letters A, E, I, and O, men have endeavoured to transform Logic, or the Art of Reaſoning, into a ſort of mechaniſm, and to teach boys to ſyllogize, or frame argument and refute them, without any real inward knowledge of the queſtion. This is almoſt in the ſame manner as ſchool-boys have been

taught perhaps in their trifling years to compoſe Latin verſes; that is, by certain tables and ſquares, with a variety of letters in them, wherein by counting every ſixth, ſeventh, or eight letter, certain Latin words ſhould be framed in the form of hexameters or pentameters; and this may be done by thoſe who know nothing of Latin or verſes.

I confeſs, ſome of theſe logical ſubtleties have much more uſe than thoſe verifying tables, and there is much ingenuity diſcovered in determining the preciſe number of ſyllogiſms that may be formed in every figure, and giving the reaſons of them; yet the light of nature, a good judgment, and due conſideration of things tend more to true reaſoning, than all the trappings of modes and figures.

But leſt this book be charged with too great defects and imperfections, it may be proper to give ſhort hints of that which ſome logicians have ſpent ſo much time and paper upon.

All the poſſible combinations of three of the letters, A, E, I, O, to make three propoſitions amount to ſixty-four; but fifty four of them are excluded from forming true ſyllogiſms, by the ſeven rules in the foregoing ſection: the remaining ten are variouſly diverſified by figures and modes into fourteen ſyllogiſms.

The figure of a ſyllogiſm is the proper diſpoſition of the middle term with the parts of the queſtion.

A mode is the regular determination of propoſitions according to their quantity and quality, that is, their univerſal or particular affirmation or negation; which are ſignified by certain artificial words wherein the conſonants are neglected, and theſe four vowels A, E, I, O, are only regarded.

There are generally counted three figures.

In the firſt of them the middle term is the ſubject of the major propoſition, and the predicate of the minor. This contains four modes (*viz.*) Barbara, Celarent, Darii, Ferio. And it is the excellency of this figure that all ſorts of queſtions or concluſions may be proved by it, whether A, E, I, or O, that is, univerſal or particular, affirmative or negative, as,

Bar- Every wicked man is truly miſerable ;
ba- All tyrants are wicked men :
ra. Therefore all tyrants are truly miſerable.

Ce- He that is always in fear is not happy ;
la- Covetous men are always in fear :
rent. Therefore covetous men are not happy.

Da- Whatſoever furthers our ſalvation is good for us ;
ri- Some afflictions further our ſalvation :
i. Therefore ſome afflictions are good for us.

Fe- Nothing that muſt be repented of is truly deſirable ;
ri- Some pleaſures muſt be repented of :
o. Therefore there are ſome pleaſures which are not truly deſirable.

In the ſecond figure the middle term is the predicate of both the premiſes ; this contains four modes, *(viz.)* Cæſare, Cameſtres, Feſtino, Baroco, and it admits only of negative concluſions ; as,

Cæ- No liar is fit to be believed ;
ſa- Every good chriſtian is fit to be believed :
re. Therefore no good chriſtian is a liar.

The reader may eaſily form examples of the reſt.

The third figure requires that the middle term be the ſubject of both the premiſes. It has ſix modes, *(viz.)* Darepti, Felapton, Diſamis, Datiſi, Bocardo, Feriſon ; and it admits only of particular concluſions : as,

Da- Whoſoever loves God ſhall be ſaved ;
rep- All the lovers of God have their imperfections :
ti. Therefore ſome who have imperfections ſhall be ſaved.

I leave the reader to form examples of the reſt.

The modes of theſe three figures are compriſed in four Latin verſes.

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SECT. IV.

Of complex Syllogiſm

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complex ſyllogiſms, in which the mid

conclusive force of this argu-
his reduction.

ECT. V.

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wrote : St Paul is an apoſtle : therefore chriſtianity quires us to believe what St Paul wrote.

No human artiſt can make an animal ; a fly worm is an animal : therefore no human artiſt make a fly or a worm.

The father always lived in London ; the ſon al lived with the father : therefore the ſon always in London.

The bloſſom ſoon follows the full bud ; this tree hath many full buds : therefore it will ſh have many bloſſoms.

One hail-ſtone never falls alone ; but a hail- fell juſt now ; therefore others fell with it.

Thunder ſeldom comes without lightning ; b thundered yeſterday : therefore probably it ligh alſo.

Moſes wrote before the Trojan war ; the firſt G hiſtorians wrote after the Trojan war : therefor firſt Greek hiſtorians wrote after Moſes.*

Now the force of all theſe arguments is ſo evi and conclusive, that though the form of the *ſyllo* be never ſo irregular, yet we are ſure the inferer are juſt and true, for the premiſes, according to reaſon of things, do really contain the conclusion is deduced from them, which is a never-failing te true ſyllogiſms, as ſhall be ſhewn here-after.

The truth of moſt of theſe complex ſyllogiſms alſo be made to appear (if needful) by reducing either to regular, ſimple ſyllogiſms, or to ſome o conjunctive ſyllogiſms, which are deſcribed in the ſection. I will give an inſtance only in the firſt, leave the reſt to exerciſe the ingenuity of the re

The firſt argument may be reduced to a ſyllo in Barbara, thus,

The ſun is a ſenſeleſs being ;
What the Persians worſhipped is the ſun :
Therefore what the Persians worſhipped is a

* Perhaps ſome of theſe ſyllogiſms may be reduced to thoſe I call connexive afterwards ; but it is of little moment to wh cies they belong ; for it is not any formal ſet of rules, ſo m the evidence and force of reaſon, that muſt determine the tr falſehood of all ſuch ſyllogiſms.

leſs being. Though the conclusive force of this argument is evident without this reduction.

SECT. V.

Of conjunctive Syllogiſms.

THOSE are called conjunctive ſyllogiſms wherein one of the premiſes, namely the major, has diſtinct parts, which are joined by a conjunction, or ſome ſuch particle of ſpeech. Moſt times the major or minor, or both, are explicitly compound propoſitions: and generally the major proposition is made up of two diſtinct parts or propoſitions, in ſuch a manner, as that by the aſſertion of one in the minor, the other is either aſſerted or denied in the conclusion; or by the denial of one in the minor, the other is either aſſerted or denied in the conclusion. It is hardly poſsible indeed to fit any ſhort definition to include all the kinds of them; but the chief amongſt them are the conditional ſyllogiſm, the disjunctive, the relative, and the connexive.

I. The conditional or hypothetical ſyllogiſms is whoſe major, or minor, or both, are conditional propoſitions; as, if there be a God, the world is governed by Providence; but there is a God: therefore the world is governed by Providence.

The ſyllogiſms admit two ſorts of true argumentation, where the major is conditional.

1. When the antecedent is aſſerted in the minor, that the conſequence may be aſſerted in the conclusion; ſuch is the preceding example. This is called arguing from the position of the antecedent to the position of the conſequent.

2. When the conſequent is contradicted in the minor proposition, that the antecedent may be contradicted

in the conclusion; as, if atheiſts are in the right, then the world exiſts without a cauſe; but the world does not exiſt without a cauſe: therefore atheiſts are not in the right. This is called arguing from the removing of the conſequent to the removing of the antecedent.

To remove the antecedent or conſequent here does not merely ſignify the denial of it, but the contradiction of it; for the mere denial of it by a contrary proposition will not make a true ſyllogiſm, as appears thus: if every creature be reaſonable, every brute is reaſonable; but no brute is reaſonable: therefore no creature is reaſonable. Whereas, if you ſay in the minor, but every brute is not reaſonable: then it would follow truly in the conclusion: therefore every creature is not reaſonable.

When the antecedent or conſequent are negative propositions, they are removed by an affirmative; as, if there be no God, then the world does not diſcover creating wiſdom; but the world does diſcover creating wiſdom: therefore there is a God. In this inſtance the conſequent is removed or contradicted *in the minor*, that the antecedent may be contradicted *in the conclusion*. So in this argument of St Paul, 1 Cor. xv. "If the dead riſe not, Chriſt died in vain; but Chriſt did not die in vain: therefore the dead ſhall riſe."

There are alſo two ſorts of falſe arguing, viz. (1.) from the removing of the antecedent to the removing of the conſequent; or, (2.) from the poſition of the conſequent to the poſition of the antecedent. Examples of theſe are easily framed; as,

(1.) If a miniſter were a prince, he muſt be honoured; but a miniſter is not a prince:

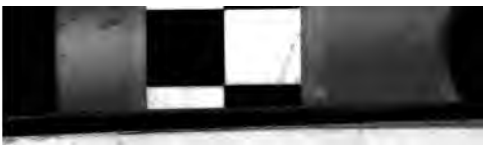
Therefore he muſt not be honoured.

(2.) If a miniſter were a prince, he muſt be honoured; but a miniſter muſt be honoured:

Therefore he is a prince.

Who ſees not the ridiculous falſehood of both theſe ſyllogiſms?

Obſerv. I. If the ſubject of the antecedent and the conſequent be the ſame, then the hypothetical ſyllogiſm may be turned into a categorical one; as, if Cæſar be a



king, he muſt be honoured; but Cæſar is a king; therefore, &c. This may be changed thus; every king muſt be honoured; but Cæſar is a king: therefore, &c.

Obſerv. II. If the major proposition only be conditional, the conclusion is categorical: but if the minor or both be conditional, the conclusion is alſo conditional; as, the worſhippers of images are idolaters; if the Papiſts worſhip a crucifix, they are worſhippers of an image: therefore, if the Papiſts worſhip a crucifix, they are idolaters. But this ſort of ſyllogiſms ſhould be avoided as much as poſſible in diſputation, becauſe they greatly embarras a cauſe: the ſyllogiſms whoſe major only is hypothetical, are very frequent, and uſed with great advantage.

II. A disjunctive ſyllogiſm is when the major proposition is disjunctive; as, the earth moves in a circle or an ellipsis; but it does not move in a circle; therefore it moves in an ellipsis.

A disjunctive ſyllogiſm may have many members or parts thus; it is either ſpring, ſummer, autumn, or winter; but it is not ſpring, autumn, or winter; therefore it is ſummer.

The true method of arguing here is from the aſſertion of one, to the denial of the reſt, or from the denial of one or more, to the aſſertion of what remains; but the major ſhould be ſo framed that ſeveral parts of it cannot be true together, though one of them is evidently true.

III. A relative ſyllogiſm requires the major proposition to be relative; as, where Chriſt is, there ſhall his ſervants be; but Chriſt is in heaven; therefore his ſervants ſhall be there alſo. Or, as is the captain, ſo are his ſoldiers; but the captain is a coward: therefore his ſoldiers are ſo too.

Arguments that relate to the doctrine of proportion, muſt be referred to this head; as, as two are to four, ſo are three to six; but two make the half of four: therefore three make the half of six.

Beſides theſe, there is another ſort of ſyllogiſms which

is very natural and common, and yet authors take very little notice of it, call it by an improper name, and describe it very defectively, and that is,

IV. A connective ſyllogiſm. This ſome have called copulative; but it does by no means require the major to be a copulative nor a compound propoſition (according to the definition given of it, Part II. Chap II. Sect. 6.) but it requires that two or more ideas be ſo connected either in the complex ſubject or predicate of the major, that if one of them be affirmed or denied in the minor, common ſenſe will naturally ſhew us what will be the conſequence. It would be very tedious and uſeleſs to frame particular rules about them, as will appear by the following examples, which are very various, and yet may be farther multiplied.

(1.) Meekneſs and humility always go together; Moſes was a man of meekneſs: therefore Moſes was alſo humble. Or we may form this minor, Pharaoh was no humble man; therefore he was not meek.

(2.) No man can ſerve God and Mammon: the covetous man ſerves Mammon: therefore he cannot ſerve God. Or the minor may run thus, the true Chriſtian ſerves God; therefore he does not ſerve Mammon.

(3.) Genius muſt join with ſtudy to make a great man; Florino has genius but he cannot ſtudy: therefore Florino will never be a great man. Or thus, Quintus ſtudies hard but has no genius: therefore Quintus will never be a great man.

(4.) Gulo cannot make a dinner without fleſh and fiſh; there was no fiſh to be gotten to-day: therefore Gulo this day cannot make a dinner.

(5.) London and Paris are in different latitudes; the latitude of London is 51 deg. 1 half: therefore this cannot be the latitude of Paris.

(6.) Joſeph and Benjamin had one mother; Rachel was the mother of Joſeph: therefore ſhe was Benjamin's mother too.

(7.) The father and the ſon are of equal ſtature; the father is ſix feet high: therefore the ſon is ſix feet alſo.

(8) Pride is inconſiſtent with innocence; angels have innocence: therefore they have no pride. Or thus; devils have pride: therefore they have not innocence.

I might multiply other inſtances of theſe connexive ſyllogiſms, by bringing in all ſorts of exceptive, excluſive, comparative, and modal propoſitions into the compoſition of them; for all theſe may be wrought into conjunctive, as well as into ſimple ſyllogiſms, and thereby we may render them complex. But it would waſte time and paper without equal profit.

Concerning theſe various kinds of conjunctive ſyllogiſms, take theſe two obſervations.

Obſerv. I. Moſt of them may be transformed into categorical ſyllogiſms by thoſe who have a mind to prove the truth of them that way; or they may be eaſily converted into each other by changing the forms of ſpeech.

Obſerv. II. Theſe conjunctive ſyllogiſms are ſeldom deficient or faulty in the form of them; for ſuch a deficience would be diſcovered at the firſt glance generally by common reaſon, without any artificial rules of logic: the chief care therefore is to ſee that the major propoſition be true, upon which the whole force of the argument uſually depends.

SECT. VI.

Of compound Syllogiſms.

WE properly call thoſe compound ſyllogiſms which are made of two or more ſingle ſyllogiſms, and may be reſolved into them. The chief kinds are theſe, Epichirema, Dilemma, Proſyllogiſmus, and Sorites.

I. *Epichirema* is a ſyllogiſm which contains the proof of the major or minor, or both, before it draws the concluſion. This is often uſed in writing, in public

ſpeeches, and in common converſation, that ſo each part of the diſcourſe may be confirmed and put out of doubt, as it moves on towards the concluſion, which was chiefly deſigned. Take this inſtance;

Sickneſs may be good for us; for it weans us from the pleaſures of life, and makes us think of dying;

But we are uneaſy under ſickneſs, which appears by our impatience, complaints, groaning: &c.

Therefore we are uneaſy ſometimes under that which is good for us.

Another inſtance you may ſee in Cicero's oration in defence of Milo, who had ſlain Clodius. His major propoſition is, that it is lawful for one man to kill another who lies in wait to kill him; which he proves from the cuſtom of nations, from natural equity, examples, &c. his minor is, that Clodius laid wait for Milo; which he proves by his arms, guards, &c. and then infers the concluſion, that it was lawful for Milo to kill Clodius.

II. A *Dilemma* is an argument which divides the whole into all its parts or members by a disjunctive propoſition, and then infers ſomething concerning each part which is finally inferred concerning the whole. Inſtances of this are frequent; as, in this life we muſt either obey our vicious inclinations or reſiſt them; to obey them will bring ſin and ſorrow, to reſiſt them is laborious and painful: therefore we cannot be perfectly free from ſorrow or pain in this life.

A *Dilemma* becomes faulty or ineffectual three ways; firſt, when the members of the diviſion are not well oppoſed, or not fully enumerated; for then the major is falſe. Secondly, when what is aſſerted concerning each part is not juſt; for then the minor is not true. Thirdly, when it may be retorted with equal force upon him who utters it.

There was a famous ancient inſtance of this caſe wherein a *Dilemma* was retorted. Euathlus promiſed Protagoras a reward when he had taught him the art of pleading, and it was to be paid the firſt day that he gained any cauſe in the court. After a conſiderable time Protagoras goes to law with Euathlus for the reward, and uſes this Dilemma; either the cauſe will go

on my side, or on yours; if the cauſe goes on my side, you muſt pay me according to the ſentence of the judge: if the cauſe goes on your side, you muſt pay me according to your bargain: therefore whether the cauſe goes for me or againſt me, you muſt pay me the reward. But Euathlus retorted this Dilemma thus: Either I ſhall gain the cauſe or loſe it; if I gain the cauſe, then nothing will be due to you, according to the ſentence of the judge; but if I loſe the cauſe, nothing will be due to you according to my bargain: therefore whether I gain or loſe the cauſe, I will not pay you, for nothing will be due to you.

Note 1. A *Dilemma* is uſually deſcribed as though it always proved the abſurdity, inconvenience, or unreaſonableneſs of ſome opinion or practice; and this is the moſt common design of it; but it is plain, that it may alſo be uſed to prove the truth or advantage of any thing propoſed; as, in heaven we ſhall either have deſires or not; if we have no deſires, then we have full ſatisfaction; if we have deſires, they ſhall be ſatisfied as faſt as they ariſe: therefore in heaven we ſhall be compleatly ſatisfied.

Note 2. This ſort of argument may be compoſed of three or four members, and may be called a Trilemma.

III. A *Proſyllogiſm* is when two or more ſyllogiſms are ſo connected together, that the conclusion of the former is the major or the minor of the following: as, blood cannot think; but the ſoul of man thinks: therefore the ſoul of man is not blood; but the ſoul of a brute is his blood, according to the ſcripture; therefore the ſoul of man is different from the ſoul of a brute. See another inſtance in the introduction to this treatiſe, p. 3.

IV. A *Sorites* is when ſeveral middle terms are choſen to connect one another ſucceſſively in ſeveral propoſitions, till the laſt propoſition connects its predicate with the firſt ſubject. Thus, all men of revenge have their ſouls often uneaſy: uneaſy ſouls are a plague to themſelves; now to be one's own plague is folly in the extreme; therefore all men of revenge are extreme fools.

The apoſtle, Rom. viii. 29. gives us an inſtance of this ſort of argument, if it were reduced to exact form: Whom he foreknew thoſe he predeſtinated; whom he predeſtinated he called; whom he called he juſtified: whom he juſtified he glorified: therefore whom he foreknew he glorified.

To theſe ſyllogiſms it may not be improper to add Induction, which is when from ſeveral particular propoſitions we infer one general; as, the doctrine of the Socinians cannot be proved from the Goſpel, it cannot be proved from the acts of the Apoſtles, it cannot be proved from the Epiſtles, nor the book of Revelation; therefore it cannot be proved from the New Teſtament.

Note, This ſort of argument is often defective, becauſe there is not due care taken to enumerate all the particulars on which the concluſion ſhould depend.

All theſe four kinds of ſyllogiſms in this ſection may be called redundant, becauſe they have more then three propoſitions. But there is one ſort of ſyllogiſm which is defective, and is called an Entiymema, becauſe only the concluſion with one of the premiſes is expreſſed, while the other is ſuppoſed and reſerved in the mind: thus, there is no true religion without good morals: therefore a knave cannot be truly religious; or thus, it is our duty to love our neighbours as ourſelves: therefore there are but few who perform their duty.

Note. This is the moſt common ſort of argument amongſt mankind both in writing and in ſpeaking; for it would take up too much time and too much retard the diſcourſe to draw out all our arguments in mode and figure. Beſides, mankind love to have ſo much compliment paid to their underſtandings, as to ſuppoſe that they know the major or minor which is ſuppreſſed and implied, when you pronounce the other premiſe and the concluſion.

If there be any debate about this argument, the ſyllogiſm muſt be compleated, in order to try its force and goodneſs, by adding the abſent propoſition.

SECT. VII.

Of the middle Terms, of common Places or Topics, and Invention of Arguments.

THE next diviſion of ſyllogiſms is according to the middle term, which is made uſe of in the proof of any propoſition. Now the middle term (as we have hinted before) is often called Argument, becauſe the force of the ſyllogiſm depends upon it: we muſt make a little delay here to treat briefly of the doctrine of topics, or places whence middle terms or arguments are drawn.

All arts and ſciences have ſome general ſubjects which belong to them, which are called Topics or common places; becauſe middle terms are borrowed, and arguments derived from them for the proof of their various propoſitions which we have occaſion to diſcourſe of. The topics of Grammar, are etymology, noun, verb, conſtruction, ſignification, &c. The topics of Logic are genus, ſpecies, difference, property, definition, diviſion, &c. The topics of Ontology or Metaphyſics, are cauſe, effect, action, paſſion, indentity, oppoſition, ſubject, adjunct, ſign, &c. The topics of Morality or Ethics, are law, ſin, duty, authority, freedom of will, command, threatning, reward, puniſhment, &c. The topics of Theology, are, God, Chriſt, faith, hope, worſhip, ſalvation, &c.

To theſe ſeveral topics there belong particular obſervations, axioms, canons, or rules*, which are laid down in their proper ſciences; as,

Grammar hath ſuch canon, (viz.) words in a different conſtruction obtain a different ſenſe, words derived from the ſame primitive may probably have ſome affinity in their original meaning, &c.

Canons in logic are ſuch as theſe; every part of a diviſion, ſingly taken muſt contain leſs than the whole. A definition muſt be peculiar and proper to the thing

* A canon is a propoſition declaring ſome property of the ſubject which is not expreſſed in the definition or diviſion of it.

named "*demonſtratio tou diote*," becauſe it ſhews alſo the cauſe of exiſtence.

But note, that though theſe two ſorts of arguments are moſt peculiarly called demonſtrations, yet generally any ſtrong and convincing argument obtains that name; and it is the cuſtom of mathematicians to call all their arguments demonſtrations, from what medium ſoever they derive them.

III. Arguments are divided into artificial and inartificial.

An artificial argument is taken from the nature and circumſtances of the things; and if the argument be ſtrong, it produces a natural certainty; as, the world was at firſt created by God, becauſe nothing can create itſelf.

An inartificial argument is the teſtimony of another, and this is called original, when our information proceeds immediately from the perſons concerned, or from eye or ear witneſſes of the fact: it is called tradition when it is delivered by the report of others.

We have taken notice before, that teſtimony is either divine or human. If the human teſtimony be *ſtrong*, it produces a moral certainty; but divine teſtimony produces a ſupernatural certainty, which is far ſuperior.

Note, Arguments taken from human teſtimony, as well as from laws and rules of equity, are called moral; and indeed the ſame name is alſo applied to every ſort of argument which is drawn from the free actions of God, or the contingent actions of men, wherein we cannot ariſe at a natural certainty, but content ourſelves with an high degree of probability, which in many caſes is ſcarce inferior to natural certainty.

IV. Arguments are either direct or indirect. It is a direct argument where the middle term is ſuch as proves the queſtion itſelf, and infers that very propoſition which was the matter of inquiry. An indirect or oblique argument proves, or refutes ſome other propoſition, and thereby makes the thing inquired appear to be true by plain conſequence.

Several arguments are called indirect; as, (1) when ſome contradictory propoſition is proved to be falſe, improbable or impoſſible: or, when, upon ſuppoſition

of the falſehood, or denial of the original propoſition, ſome abſurdity is inferred. This is called a proof *per impoſſibile*, or a *reductio ad abſurdum*. (2.) When ſome other propoſition is proved to be true which is leſs probable, and thence it follows, that the original propoſition is true; becauſe it is more probable. This is an argument *ex magis probabili ad minus*. (3.) When any other propoſition is proved upon which it was before agreed to yield the original queſtion. This is an argument *ex conceſſo*.

V. There is yet another rank of arguments which have Latin names; their true diſtinction is derived from the topics or middle terms which are uſed in them, though they are called an addreſs to our judgment, our faith, our ignorance, our profeſſion, our modeſty, or our paſſions.

1. If an argument be taken from the nature or exiſtence of things, and addreſſed to the reaſon of mankind, it is called *argumentum ad judicium*.

2. When it is borrowed from ſome convincing teſtimony, it is called *argumentum ad fidem*, an addreſs to our faith.

3. When it is drawn from any inſufficient medium whatſoever, and yet the oppoſer has not ſkill to refute or anſwer it, this is *argumentum ad ignorantiam*, an addreſs to our ignorance.

4. When it is built upon the profeſſed principles or opinions of the perſon with whom we argue, whether the opinions be true or falſe, it is named *argumentum ad hominem*, an addreſs to our profeſſed principles. St Paul often uſes this argument when he reaſons with the Jews, and when he ſays I ſpeak as a man.

5. When the argument is fetched from the ſentiments of ſome wiſe, great, or good men, whoſe authority we reverence and hardly dare oppoſe, it is called *argumentum ad verecundiam*, an addreſs to our modeſty.

6. I add finally, when an argument is borrowed from any topics which are ſuited to engage the inclinations and paſſions of the hearers on the ſide of the ſpeaker, rather than to convince the judgment, this is *argumentum ad paſſiones*, an addreſs to the paſſions; or

if it be made publicly, it is called *ad populum*, or peal to the people.

After all theſe diviſions of ſyllogiſm or ar ariſing from the middle term, there is one diſt proper to be mentioned which ariſes from the pr An argument is called uniform when both the p are derived from the ſame ſpring of knowledge ther it be ſenſe, reaſon, conſciouſneſs, human f divine faith: But when the two premiſes are from different ſprings of knowledge, it is called argument.

Whether the concluſion muſt be called hum divine, when one or both premiſes are matters vine faith, but the concluſion is drawn by *huma* ſon, I leave to be diſputed and determined i ſchools of theology.

Thus the ſecond chapter is finiſhed, and a pa lar account given of all the chief kinds of ſyllogi arguments which are made uſe of among m treated of in logic, together with ſpecial rules f formation of them, as far as is neceſſary.

If a ſyllogiſm agree with the rules which are for the conſtruction and regulation of it, it is c true argument: If it diſagree with theſe rules, paralogiſm, or falſe argument: but when a falſe ment puts on the face and appearance of a *true* then it is properly called a ſophiſm or *fallacy*, ſhall be the ſubject of the next chapter.

CHAP. III.

The Doctrine of Syllogiſms.

FROM truth nothing can really follow but is true; whenſoever therefore we find a concluſion drawn from premiſes which ſeem to be there muſt be ſome fault in the deduction or infere or elſe one of the premiſes is not true in the ſen which it is uſed in that argument.

When an argument carries the face of truth with it, and yet leads us into miſtake, it is a ſophiſm: and there is ſome need of a particular deſcription of theſe fallacious arguments, that we may with more eaſe and readineſs detect and ſolve them.

SECT. I.

Of ſeveral Kinds of Sophiſms and their Solution.

AS the rules of right judgment and of good ratiocination often coincide with each other, ſo the doctrine of prejudices, which was treated of in the ſecond part of logic, has anticipated a great deal of what might be ſaid on the ſubject of ſophiſms: yet I ſhall mention the moſt remarkable ſprings of falſe argumentation, which are reduced by logicians to ſome of the following heads.

I. The firſt ſort of ſophiſm is called *ignoratio elenchi*, or a miſtake of the queſtion; that is, when ſomething elſe is proved which has neither any neceſſary connection or inconſiſtency with the thing inquired, and conſequently gives no determination to the inquiry tho' it may ſeem at firſt ſight to determine the queſtion; as, if any ſhould conclude that St Paul was not a native Jew, by proving that he was born a Roman; or if they ſhould pretend to determine that he was neither Roman nor Jew, by proving that he was born at Tarſus in Cilicia; theſe ſophiſms are refuted by ſhewing that theſe three may be true; for he was born of Jewiſh parents in the city of Tarſus, and by ſome peculiar privilege granted to his parents, or his native city, he was born a denizen of Rome. Thus there is neither of theſe three characters of the apoſtle inconſiſtent with each other, and therefore the proving one of them true does not refute the other.

Or if the queſtion be propoſed, whether exceſs of wine can be hurtful to him that drinks it, and the ſo-

phiſter ſhould prove that it revives his ſpirit, it exhilarates his ſoul, it gives a man courage, and makes him ſtrong and active, and then he takes it for granted that he has proved his point.

But the reſpondent may eaſily ſhew, that though wine may do all this, yet it may be finally hurtful *both* to the ſoul and body of him that drinks it to exceſs.

Diſputers when they grow warm are ready to run into this fallacy; they dreſs up the opinion of their adverſary as they pleaſe, and aſcribe ſentiments to him which he doth not acknowledge, and when they have with a great deal of pomp attacked and confounded theſe images of ſtraw of their own making, they triumph over their adverſary, as though they had *utterly* confounded his opinion.

It is a fallacy of the ſame kind which a diſputant is guilty of, when he finds that his adverſary is too hard for him, and that he cannot fairly prove the queſtion firſt propoſed; he then with ſlyneſs and ſubtlety turns the diſcourſe aſide to ſome other kindred *point* which he can prove, and exults in that new argument wherein this opponent never contradicted him.

The way to prevent this fallacy is by keeping the eye fixed on the preciſe point of diſpute, and neither wandering from it ourſelves, nor ſuffering our antagoniſt to wander from it, or ſubſtitute any thing elſe in its room.

II. The next ſophiſm is called *petitio principii*, or a ſuppoſition of what is not granted; that is, when any propoſition is proved by the ſame propoſition in other words, or by ſomething that is equally uncertain and diſputed: as if any one undertake to prove that the human ſoul is extended through all the parts of the body, becauſe it reſides in every member, which is but the ſame thing in other words. Or, if a Papiſt ſhould pretend to prove that his religion is the only Catholic religion, and is derived from Chriſt and his apoſtles, becauſe it agrees with the doctrine of all the fathers of the Church, all the holy Martyrs, and all the Chriſtian world throughout all ages: whereas this is a great point in conteſt, whether their religion does agree with

that of all the ancients, and the primitive chriſtians or no.

III. That ſort of fallacy which is called a Circle is very near a-kin to the *petitio principii*; as, when one of the premiſes in a ſyllogiſm is queſtioned and oppoſed, and we intend to prove it by the concluſion: or, when in a train of ſyllogiſms we prove the laſt by recurring to what was the concluſion of the firſt. The Papiſts are famous at this ſort of fallacy, when they prove the ſcripture to be the word of God by the authority or infallible teſtimony of their church, and when they are called to ſhew the infallible authority of their church, they pretend to prove it by the ſcripture.

IV. The next kind of ſophiſm is called *non cauſa pro cauſa*, or the aſſignation of a falſe cauſe. This the Peripatetic philoſophers were guilty of continually, when they told us that certain being, which they called ſubſtantial forms, were the ſprings of colour, motion, vegetation, and the various operations of natural beings in the animate and inanimate world; when they informed us that nature was terribly afraid of a vacuum, and that it was the cauſe why the water would not fall out of a long tube if it was turned upſide down: the moderns as well as the ancients fall often into this fallacy, when they poſitively aſſign the reaſons of natural appearances, without ſufficient experiments to prove them.

Aſtrologers are over-run with this ſort of fallacies, and they cheat the people groſly by pretending to tell fortunes, and to deduce the cauſe of the various occurrences in the lives of men from the various poſitions of the ſtars and planets, which they call Aſpects.

When comets and eclipſes of the ſun and moon are conſtrued to ſignify the fate of princes, the revolution of ſtates, famine, wars, and calamities of all kinds, it is a fallacy that belongs to this rank of ſophiſms.

There is ſcarce any thing more common in human life than this ſort of deceitful argument. If any two accidental events happen to concur, one is preſently made the cauſe of the other. If Titius wronged his neighbour of a guinea, and in ſix months after he fell down and broke his leg, weak men will impute it to the divine vengeance on Titius for his former injuſtice.

This ſophiſm was found alſo in the early days of the world: for when holy Job was ſurrounded with uncommon miſeries, his own friends inferred, that he was a moſt heinous criminal, and charged him with aggravated guilt as the cauſe of his calamities; though God himſelf by a voice from heaven ſolved this uncharitable ſophiſm, and cleared his ſervant Job of that charge.

How frequent is it among men to impute crimes to wrong perſons? We too often charge that upon the wicked contrivance and premeditated malice of a neighbour, which aroſe merely from ignorance, or from unguarded temper. And on the other hand, when we have a mind to excuſe ourſelves, we practiſe the ſame ſophiſm, and charge that upon our inadvertance or our ignorance, which perhaps was deſigned wickedneſs. What is really done by a neceſſity of circumſtances, we ſometimes impute to choice. And again, we charge that upon neceſſity, which was really deſired and choſen.

Sometimes a perſon acts out of judgment in oppoſition to his inclination; another perſon perhaps acts the ſame thing out of inclination, and againſt *his judgment*. It is hard for us to determine with aſſurance what are the inward ſprings and ſecret cauſes of every man's conduct: and therefore we ſhould be cautious and ſlow in paſſing a judgment, where the caſe is not exceeding evident: and if we ſhould miſtake, let it rather be on the charitable than on the cenſorious ſide.

It is the ſame ſophiſm that charges mathematical learning with leading the minds of men to ſcepticiſm and infidelity, and as unjuſtly accuſes the new philoſophy of paving the way to hereſy and ſchiſm. Thus the reformation from Popery has been charged with the murder and blood of millions, which in truth is to be imputed to the tyranny of the princes and the prieſts, who would not ſuffer the people to reform their ſentiments and their practice according to the word of God. Thus Chriſtianity in the primitive ages was charged by the Heathens with all the calamities which befel the Roman empire, becauſe the chriſtians renounced the Heathen gods and idols.

The way to relieve ourſelves from thoſe ſophiſms,

and to ſecure ourſelves from the danger of falling into them, is an honeſt and diligent inquiry into the real nature and cauſes of things, with a conſtant watchfulneſs againſt all thoſe prejudices that might warp the judgment aſide from truth in that inquiry.

V. The next is called *fallacia accidentis*, or a ſophiſm wherein we pronounce concerning the nature and eſſential properties of any ſubject according to ſomething which is merely accidental to it. This is a-kin to the former, and is alſo very frequent in human life. So if opium or the Peruvian bark has been uſed imprudently or unſucceſsfully, whereby the patient has received injury, ſome weaker people abſolutely pronounce againſt the uſe of the bark or opium upon all occaſions whatſoever, and are ready to call them Poiſon. So wine has been the accidental occaſion of drunkenneſs and quarrels; learning and printing may have been the accidental cauſe of ſedition in a ſtate; the reading of the bible by accident has been abuſed to promote hereſies or deſtructive errors; and for theſe reaſons they have been all pronounced evil things. Mahomet forbad his followers the uſe of wine; the Turks diſcourage learning in their dominions; and the Papiſts forbid the ſcripture to be read by the laity. But how very unreaſonable are theſe inferences, and theſe prohibitions which are built upon them.

VI. The next ſophiſm borders upon the former; and that is, when we argue from that which is true in particular circumſtances to prove the ſame thing true abſolutely, ſimply, and abſtracted from all circumſtances; this is called in the ſchools a ſophiſm a dicto ſecundum quid ad dictum ſimpliciter; as, that which is brought in the ſhambles is eaten for dinner; raw meat is brought in the ſhambles: therefore raw meat is eaten for dinner. Or thus, Livy writes fables and improbabilities when he deſcribes prodigies and omens; therefore Livy's Roman hiſtory is never to be believed in any thing. Or thus, there may be ſome miſtake of tranſcribers in ſome part of ſcripture: therefore ſcripture alone is not a ſafe guide for our faith.

This ſort of ſophiſm has its reverſe alſo; as when we argue from that which is true ſimply and abſolutely

to prove the ſame thing true in all particular circumſtances whatſoever*; as if a traitor ſhould argue from the ſixth commandment, Thou ſhalt not kill a man, to prove that he himſelf ought not to be hanged; or if a madman ſhould tell me I ought not to withhold his ſword from him, becauſe no man ought to withhold the property of another.

Theſe two ſpecies of ſophiſms are eaſily ſolved by ſhewing the difference betwixt things in their abſolute nature, and the ſame things ſurrounded with peculiar circumſtances, and conſidered in regard to ſpecial times, places, perſons and occaſions; or by ſhewing the difference between a moral and metaphyſical univerſality, and that the propoſition will hold good in one caſe, but not in the other.

VII. The ſophiſms of compoſition and diviſion come next to be conſidered.

The ſophiſm of compoſition is when we infer any thing concerning ideas in a compounded ſenſe, which is only true in a divided ſenſe. And when it is ſaid in the goſpel that Chriſt made the blind to ſee, and the deaf to hear, and the lame to walk, we ought not to infer hence, that Chriſt performed contradictions; but thoſe who were blind before were made to ſee, and thoſe who were deaf before were made to hear, &c. So when the ſcripture aſſures us the worſt of ſinners may be ſaved, it ſignifies only, that they who have been the worſt of ſinners may repent and be ſaved, not that they ſhall be ſaved in their ſins. Or if any one ſhould argue thus, two and three are even and odd; five are two and three; therefore five are even and odd. Here that is very falſely inferred concerning two or three in union, which is only two of them divided.

The ſophiſm of diviſion is when we infer the ſame thing concerning ideas in a divided ſenſe, which is only true in a compounded ſenſe; as, if we ſhould pretend to prove, that every ſoldier in the Grecian army put an hundred thouſand Perſians to flight, becauſe the Grecian ſoldiers did ſo. Or if a man ſhould argue thus; five

* This is arguing from a moral univerſality, which admits of ſome exceptions, in the ſame manner as may be argued from metaphyſical or a natural univerſality, which admits of no exception.

is one number; two and three are five: therefore two and three are one number.

This ſort of ſophiſms is committed when the word All is taken in a collective and a diſtributive ſenſe, without a due diſtinction; as, if any one ſhould reaſon thus; all the muſical inſtruments of the Jewiſh temple made a noble concert; the harp is a muſical inſtrument of the Jewiſh temple, therefore the harp made a noble concert. Here the word All in the major is collective, whereas ſuch a concluſion requires that the word All ſhould be diſtributive.

It is the ſame fallacy when the univerſal word All or No refers to ſpecies in one propoſition, and to individuals in another; as, all animals were in Noah's ark; therefore no animals periſhed in the flood: whereas in the premiſe all animals ſignifies every kind of animals, which does not exclude or deny the drowning of a thouſand individuals.

VIII. The laſt ſort of ſophiſms ariſes from our abuſe of the ambiguity of words, which is the largeſt and moſt extenſive kind of fallacy; and indeed ſeveral of the former fallacies might be reduced to this head.

When the words or phraſes are plainly equivocal, they are called Sophiſms of Equivocation; as, if we ſhould argue thus, he that ſends forth a book into the light, deſires it to be read; he that throws a book into the fire, ſends it into the light: therefore he that throws a book into the fire deſires it to be read.

This ſophiſm, as well as the foregoing, and all of the like nature, are ſolved by ſhewing the different ſenſes of the words, terms or phraſes. Here light in the major propoſition ſignifies the public view of the world; in the minor it ſignifies the brightneſs of flame and fire, and therefore the ſyllogiſm has four terms, or rather it has no middle term, and proves nothing.

But where ſuch groſs equivocations and ambiguities appear in argument, there is little danger of impoſing upon ourſelves or others. The greateſt danger, and which we are perpetually expoſed to in reaſoning, is, where the two ſenſes or ſignifications of one term are near a-kin, and not plainly diſtinguiſhed, and yet they are really ſufficiently different in their ſenſe to lead us

into great miſtakes, if we are not watchful. And indeed the greateſt part of controverſies in the ſacred or civil life ariſe from the different ſenſes that are put upon words, and the different ideas which are included in them; as hath been ſhewn at large in the firſt part of Logic, Chap. IV. which treats of words and terms.

There is, after all theſe, another ſort of ſophiſm which is wont to be called an imperfect Enumeration, or a falſe Induction, when from a few experiments or obſervations, men infer general theorems and univerſal propoſitions. But this is ſufficiently noticed in the foregoing chapter, where we treated of that ſort of ſyllogiſm which is called Induction.

SECT. II.

Two general Teſts of true Syllogiſms, and Methods of finding all Syllogiſms.

BESIDES the ſpecial deſcription of true ſyllogiſms and ſophiſms already given, and the rules by which the one are framed, and the other refuted, there are theſe two general methods of reducing all ſyllogiſms whatſoever to a teſt of their truth or falſehood.

I. The firſt is, that the premiſes muſt (at leaſt implicitly) contain the concluſion; or thus, one of the premiſes muſt contain the concluſion, and the other muſt ſhew, that the concluſion is contained in it. The reaſon of this rule is this; when any propoſition is offered to be proved, it is neceſſary to find another propoſition which confirms it, which may be called the containing Propoſitions; but becauſe the ſecond muſt not contain the firſt in an expreſs manner, and in the ſame word*, therefore it is neceſſary that a third or oſtenſive

* It is confeſſed, that the conditional and disjunctive major propoſitions do expreſly contain all that is in the concluſion; but then it is not in a certain and concluſive manner, but only in a dubious form of

propoſition be found out, to ſhew that the ſecond propoſition contains the firſt, which was to be proved. Let us make an experiment of this ſyllogiſm. Whoſoever is a ſlave to his natural inclinations is miſerable; the wicked man is a ſlave to his natural inclinations: therefore the wicked man is miſerable. Here it is evident that the major propoſition contains the concluſion: for under the general character of a ſlave to natural inclinations, a wicked man is contained or included; and the minor propoſition declares it; whence the concluſion is evidently deduced, that the wicked man is miſerable.

In many affirmative ſyllogiſms we may ſuppoſe either the major or the minor to contain the concluſion, and the other to ſhew it; for there is no great difference. But in negative ſyllogiſms it is the negative propoſition that contains the concluſion, and the affirmative propoſition ſhews it; as, every wiſe man maſters his paſſions; no angry man maſters his paſſion: therefore no angry man is wiſe. Here it is more natural to ſuppoſe the minor to be the containing propoſition; it is the minor implicitly denies wiſdom concerning an angry man, becauſe maſtering the paſſions is included in wiſdom, and the major ſhews it.

Note, this rule may be applied to complex and conjunctive, as well as ſimple ſyllogiſms, and is adapted to ſhew the truth or falſehood of any of them.

II. The ſecond is this, as the terms in every ſyllogiſm are uſually repeated twice, ſo they muſt be taken preciſely in the ſame ſenſe in both places: for the greateſt part of miſtakes, that riſe in forming ſyllogiſms, is derived from ſome little difference in the ſenſe of one of the terms in the two parts of the ſyllogiſms wherein it is uſed. Let us conſider the following ſophiſm.

1. It is a ſin to kill a man; a murderer is a man; therefore it is a ſin to kill a murderer. Here the word kill in the firſt propoſition ſignifies to kill unjuſtly, or without a law; in the concluſion it is taken abſolutely for putting a man to death in general, and therefore the inference is not good.

ſpeech, and mingled with other terms, and therefore it is not the ſame expreſs propoſition.

2. What I am you are not; but I am a man; therefore you are not a man. This is a relative syllogism: but if it be reduced to a regular categorical form, it will appear there is ambiguity in the terms, thus: what I am is a man; you are not what I am: therefore you are not a man. Here what I am in the major proposition, is taken especially for my nature; but in the minor proposition the same words are taken *individually* for my person; therefore the inference must be false, for the syllogisms does not take the term what I am both times in the same sense.

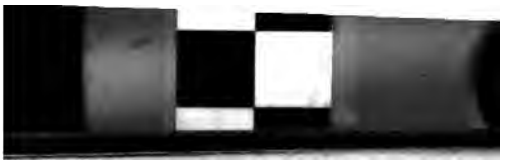
3. He that says you are an animal, says true; but he that says you are a goose, you are an animal; therefore he that says you are a goose, says true. In the major proposition the word animal is the *predicate* of an incidental proposition; which incidental *proposition* being affirmative, renders the predicate of it particular, according the Chap. II. Sect. 2. Axiom 3. and consequently the word animal there signifies only human animality. In the minor proposition, the word animal, for the same reason, signifies the animality of a goose; whereby it becomes an ambiguous term, and unfit to build the conclusion upon. Or if you say the word animal, in the minor, is taken for human animality, then the minor is evidently false.

It is from this last general test of syllogisms that we derive the custom of the respondent in answering the arguments of the opponent, which is to distinguish upon the major or minor proposition, and declare which term is used in two senses, and in what sense the proposition may be true, and in what sense it is false.

CHAP. IV.

Some general Rules to direct our Reasoning.

MOST of the general and special directions given to form our judgments aright in the preceding part of Logic might be rehearsed here; for the judgments



which we paſs upon things are generally built on ſome ſecret reaſoning or argument by which the propoſition is ſuppoſed to be proved. But there may be yet ſome farther aſſiſtances given to our reaſoning powers in their ſearch after truth, and an obſervation of the following rules will be of great importance for that end.

1. Rule. *Accuſtom yourſelves to clear and diſtinct ideas, to evident propoſitions, to ſtrong and convincing arguments.* Converſe much with thoſe friends, and thoſe books and thoſe parts of learning where you meet with the greateſt clearneſs of thought and force of reaſoning. The mathematical ſciences, and particularly arithmetic, geometry, and mechanics, abound with theſe advantages: and if there were nothing valuable in them for the uſes of human life; yet the very ſpeculative parts of this ſort of learning are well worth our ſtudy; for by perpetual examples they teach us to conceive with clearneſs, to connect our ideas and propoſitions in train of dependence, to reaſon with ſtrength and demonſtration, and to diſtinguiſh between truth and falſehood. Something of theſe ſciences ſhould be ſtudied by every man who pretends to learning, and that (as Mr Locke expreſſes it) not ſo much to make us mathematicians, as to make us reaſonable creatures.

We ſhould gain ſuch a familiarity with evidence of perception and force of reaſoning, and get ſuch a habit of diſcerning clear truth, that the mind may be ſoon offended with obſcurity and confuſion: then we ſhall (as it were) naturally and with eaſe reſtrain our minds from raſh judgment, before we attain juſt evidence of the propoſition which is offered to us; and we ſhall with the ſame eaſe, and (as it were) naturally ſeize and embrace every truth that is propoſed with juſt evidence.

This habit of conceiving clearly, of judging juſtly, and of reaſoning well, is not to be attained merely by the happineſs of conſtitution, the brightneſs of genius, the beſt natural parts, or the beſt collection of logical precepts. It is cuſtom and practice that muſt form and eſtabliſh this habit. We muſt apply ourſelves to it till we perform all this readily, and without reflecting on rules. A coherent thinker, and a ſtrict reaſoner is not to be made at once by a ſet of rules, any

more than a good painter or muſician may be form extempore by an excellent lecture on muſic or pain ing. It is of infinite importance therefore in ou younger years, to be taught both the value and th practice of conceiving clearly and reaſoning right: *for* when we are grown up to the middle of life, *or paſt* it, it is no wonder that we ſhould not learn *good rea*ſoning, any more than that an ignorant clown ſhould not be able to learn fine language, dancing, or a courtly behaviour, when his ruſtic airs have grown up with him till the age of forty.

For want of this care, ſome perſons of rank and education dwell all their days among obſcure *ideas*; they conceive and judge always in confuſion, *they* take weak arguments for demonſtration, they are *led away* with the diſguiſes and ſhadows of truth. Now if *ſuch* perſons happen to have a bright imagination, a volubility of ſpeech, and a copiouſneſs of language, they not only impoſe many errors upon their own underſtandings, but they ſtamp the image of their own *miſtakes* upon their neighbours alſo, and ſpread *their errors* abroad.

It is a matter of juſt lamentation and pity, to conſider the weakneſs of the common multitude of mankind in this reſpect, how they receive any thing into their aſſent upon the moſt trifling grounds. True reaſoning hath very little ſhare in forming their opinions. They reſiſt the moſt convincing arguments by an obſtinate adherence to their prejudices, and believe the moſt improbable things with the greateſt aſſurance. They talk of the abſtruſeſt myſteries, and determine upon them with the utmoſt confidence, and without juſt evidence either from reaſon or revelation. A confuſed heap of dark and inconſiſtent ideas make up a good part of their knowledge in matters of philoſophy as well as religion, having never been taught the uſe and value of clear and juſt reaſoning.

Yet it muſt be ſtill confeſſed that there are ſome myſteries, in religion, both natural and revealed, as well as ſome abſtruſe points in philoſophy, wherein the wiſe as well as the unwiſe muſt be content with obſcure ideas. There are ſeveral things, eſpecially relating to

the inviſible world, which are unſearchable in our preſent ſtate, and therefore we muſt believe what revelation plainly dictates, though the ideas may be obſcure. Reaſon itſelf demands this of us; but we ſhould ſeek for the brighteſt evidence both of ideas, and of the connection of them, whereſoever it is attainable.

Rule II. Enlarge your general acquaintance with things daily, in order to attain a rich furniture of topics, or middle terms, whereby thoſe propoſitions which occur may be either proved or diſproved; but eſpecially meditate and inquire with great diligence and exactneſs into the nature, properties, circumſtances and relations of the particular ſubject about which you judge or argue. Conſider its cauſes, effects, conſequences, adjuncts, oppoſites, ſigns, &c. ſo far as is needful to your preſent purpoſe. You ſhould ſurvey a queſtion round about, and on all ſides, and extend your views as far as poſſible, to every thing that has a connection with it. This practice has many advantages in it; as,

1. It will be a means to ſuggeſt to your mind proper topics for argument about any propoſition that relates to the ſame ſubject.

2. It will enable you with greater readineſs and juſtneſs of thought to give an anſwer to any ſudden queſtion upon that ſubject, whether it ariſes in your own mind, or be propoſed by others.

3. This will inſtruct you to give a plainer and ſpeedier ſolution of any difficulties that may attend the theme of your diſcourſe, and to refute the objections of thoſe who have eſpouſed a contrary opinion.

4. By ſuch a large ſurvey of the whole ſubject in all its properties and relations, you will be better ſecured from inconſiſtencies, that is, from aſſerting or denying any thing in one place, which contradicts what you have aſſerted or denied in another; and to attain theſe ends, an extenſiveneſs of underſtanding and a large memory are of unſpeakable ſervice.

One would be ready to wonder ſometimes, how eaſily great and wiſe and learned men are led into aſſertions in ſome parts of the ſame treatiſe, which are found to be ſcarce conſiſtent with what they have aſſerted in other places: but the true reaſon is the narrowneſs of the mind of man, that it cannot take in all the mul-

merable properties and relations, of one ſubject with a ſingle view; and therefore whilſt they are intent on one particular part of their theme, they bend all their force of thought to prove or diſprove ſome propoſition that relates to that part, without a ſufficient attention to the conſequences which may flow from it, and which *may* unhappily affect another part of the ſame ſubject; *and* by this means they are ſometimes led to ſay things which are inconſiſtent. In ſuch a caſe the great dealers in diſpute and controverſy take pleaſure to caſt nonſenſe and ſelf-contradiction on their antagoniſt with huge and hateful reproaches. For my part, I rather chuſe to pity human nature, whoſe neceſſary narrowneſs of underſtanding expoſes us all to ſome degrees *of this* frailty. But the moſt extenſive ſurvey poſſible *of our* whole ſubject is the beſt remedy againſt it. It is our judging and arguing upon a partial view of things, that expoſes us to miſtakes, and puſhes us into abſurdities, or at leaſt to the very borders of them.

Rule III. In ſearching the knowledge of *things*, always keep the preciſe point of the preſent *queſtion* in your eye. Take heed that you add nothing to it *while* you are arguing, nor omit any part of it. Watch carefully leſt any new ideas ſlide in, to mingle themſelves either with the ſubject or predicate. See that the queſtion be not altered by the ambiguity of any word taken in different ſenſes; nor let any ſecret prejudices of your own, or the ſophiſtical arts of others, cheat your underſtanding by changing the queſtion, or ſhuffling in any thing elſe in its room.

And for this end it is uſeful to keep the preciſe matter of inquiry as ſimple as may be, and diſengaged from a complication of ideas, which do not neceſſarily belong to it. By admitting a complication of ideas, and taking too many things at once into one queſtion, the *mind* is ſometimes dazzled and bewildered; and the truth is loſt in ſuch a variety and confuſion of ideas; whereas by limiting and narrowing the queſtion, you take a fuller ſurvey of the whole or it.

By keeping the ſingle point of inquiry in our conſtant view, we ſhall be ſecured from ſudden, raſh, and *impertinent* reſponſes and determinations, which ſome *have* obtruded inſtead of ſolutions and ſolid anſwers, *before* they perfectly know the queſtions.

Rule IV. When you have exactly conſidered the preciſe points of inquiry, or what is unknown in the queſtion, then conſider what, and how much you know already of this queſtion, or of the ideas and terms of which it is compoſed. It is by a compariſon of the known and unknown parts of the queſtion together, that you may find what reference the part known hath unto, or what connection it hath with the thing that is ſought: thoſe ideas, whereby the known and unknown parts of the queſtion are connected, will furniſh you with middle terms or arguments whereby the thing propoſed may be proved or diſproved.

In this part of your work, (viz.) comparing ideas together, take due time, and be not too haſty to come to a determination, eſpecially in points of importance. Some men when they ſee a little agreement or diſagreement between ideas, they preſume a great deal, and ſo jump into the concluſion: this is a ſhort way to fancy opinion, and conceit: but a moſt unſafe and uncertain way to true knowledge and wiſdom.

Rule V. In chuſing your middle terms or arguments to prove any queſtion, always take ſuch topics as are fureſt, and leaſt fallible, and which carry the greateſt evidence and ſtrength with them. Be not ſo ſolicitous about the number, as the weight of your arguments, eſpecially in proving any propoſition which admits of natural certainty, or of compleat demonſtration. Many times we do injury to a cauſe by dwelling upon trifling arguments. We amuſe our hearers with uncertainties, by multiplying the number of feeble reaſonings, before we mention thoſe which are more ſubſtantial, concluſive, and convincing. And too often we yield up our own aſſent to mere probable arguments, where certain proofs may be obtained.

Yet it muſt be confeſſed there are many caſes, wherein the growing number of probable arguments increaſes the degree of probability, and gives a great and ſufficient confirmation to the truth which is ſought; as,

(1.) When we are inquiring the true ſenſe of any word or phraſe, we are more confirmed in the ſignification of it, by finding the ſame expreſſion ſo uſed in ſeveral authors, or in ſeveral places of the ſame author.

(2.) When we are ſearching out the true meaning

or opinion of any writer, or inquiring into any ſacred doctrine of ſcripture, we come to a ſurer determination of the truth by ſeveral diſtinct places wherein the ſame thing is expreſſed or plainly implied; becauſe it is not probable that an honeſt ſkilful reader ſhould miſtake the meaning of the writer in many places, as he may *in one* or two.

(3.) When we would prove the importance of any ſcriptural doctrine or duty, the multitude of texts, wherein it is repeated and inculcated upon the reader, ſeems naturally to inſtruct us that it is a matter of greater importance than other things which are but ſlightly or ſingly mentioned in the bible.

(4.) In ſearching out matters of fact in *times paſt*, or in diſtant places, (in which caſe moral evidences is ſufficient, and moral certainty is the utmoſt which can be attained) here we derive a greater aſſurance of the truth of it by a number of perſons, or a multitude of circumſtances concurring to bear witneſs of it.

(5.) From many experiments in natural *philoſophy* we more ſafely infer a general theorem, than we can from one or two.

(6.) In matters which require preſent practice, both ſacred and civil, we muſt content ourſelves oftentimes with a mere preponderation of probable reaſons or arguments. Where there are ſeveral reaſons on each ſide, for and againſt a thing that is to be done or omitted, a ſmall argument added to the heap may *juſtly* turn the balance on one ſide, and determine the judgment, as I have noted in the ſecond part of Logic.

To conclude; a growing acquaintance with matters of learning, and a daily improvement of our underſtandings in affairs human and divine, will beſt teach us to judge and diſtinguiſh in what caſes the number of arguments add to their weight and force: it is only experience can fully inform us when we muſt be determined by probable topics, and when we muſt ſeek and expect demonſtrations.

Rule VI. Prove your concluſion (as far as poſſible) by ſome propoſitions that are in themſelves more plain, evident and certain than the concluſion; or at leaſt ſuch as are more known, and more intelligible to the perſon *whom* you would convince. If we neglect this rule,

we ſhall endeavour to enlighten that which is obſcure by ſomething equally or more obſcure, and to confirm that which is doubtful, by ſomething equally or more uncertain. Common ſenſe dictates to all men, that it is impoſſible to eſtabliſh any truth, and to convince others of it, but by ſomething that is better known to them than that truth is.

Rule VII. Labour in all your arguings to enlighten the underſtanding, as well as to conquer and captivate the judgment. Argue in ſuch a manner as may give a natural, diſtinct, and ſolid knowledge of things to your hearers, as well as to force their aſſent by a mere proof of the queſtion. Now to attain this end, the chief topic or medium of your demonſtration ſhould be fetched, as much as poſſible, from the nature of the thing to be proved, or from thoſe things which are moſt naturally connected with it.

Geometricians ſometimes break this rule without neceſſity, two ways, (viz.)

1. When they prove one propoſition only by ſhewing what abſurdities will follow if the contradictory propoſition be ſuppoſed or admitted. This is called *Reductio ad abſurdum**, or *Demonſtratio per impoſſibile*; as for inſtance, when they prove all the *Radii* of a circle to be equal, by ſuppoſing one Radius to be longer or ſhorter than another, and then ſhewing what abſurd conſequences will follow. This, I confeſs, forces the aſſent, but it does not enlighten the mind by ſhewing the true reaſon and cauſe why all *Radii* are equal, which is derived from the very conſtruction of a circle: for ſince a circle is formed by fixing one end of a ſtrait line in the centre, and moving the other end round, (or, which is all one, by compaſſes, kept open to a certain extent) it follows evidently that every part of the circumference being thus deſcribed muſt be equally diſtant from the centre, and therefore the *Radii*, which

* Note, This rule chiefly refers to the eſtabliſhment of ſome truth, rather than to the refutation of error. It is a very common and uſeful way of arguing to refute a falſe propoſition, by ſhewing what evident falſehood or abſurdities will follow from it. For what propoſition ſoever is really abſurd and falſe, does effectually prove that principle to be falſe from which it is derived; ſo that this way of refuting an error is not ſo uſually called "Reductio ad abſurdum."

are lines from the centre to the circumference, muſt be all equal.

2. Geometricians forget this rule when they heap up many far fetched lines, figures and proportions to prove ſome plain, ſimple, and obvious propoſition. This is called a Demonſtration *per aliena et remota*, or an argument from unnatural and remote mediums: as if in order to prove the *Radii* of a circle are all equal, I ſhould make ſeveral triangles and ſquares about the circle, and then from ſome properties and propoſitions of ſquares and triangles prove that the *Radii* of a circle are equal.

Yet it muſt be confeſſed, that ſometimes ſuch queſtions happen, that it is hardly poſſible to prove them by direct arguments drawn from the nature of things, &c. and then it may not only be lawful, but neceſſary to uſe indirect proofs, and arguments drawn from remote mediums, or from the abſurdity of the contradictory ſuppoſitions.

Such indirect and remote arguments may alſo be ſometimes uſed to confirm a propoſition which has been before proved by arguments more direct and immediate.

VIII. Rule. Though arguments ſhould give light to the ſubject, as well as conſtrain the aſſent, yet you muſt learn to *diſtinguiſh well between an explication and an argument; and neither impoſe upon yourſelves, nor ſuffer yourſelves to be impoſed upon by others, by miſtaking a mere illuſtration for a convincing reaſon.*

Axioms themſelves, or ſelf-evident propoſitions may want an explication or illuſtration, though they are not to be proved by reaſoning.

Similitudes and alluſions have oftentimes a very happy influence to explain ſome difficult truth, and to render the idea of it familiar and eaſy. Where the reſemblance is juſt and accurate, the influence of a ſimile may proceed ſo far as to ſhew the poſſibility of the thing in queſtion: but ſimilitudes muſt not be taken as a ſolid proof of the truth or exiſtence of thoſe things to which they have a reſemblance. A too great deference paid to ſimilitudes, or an utter rejection of them ſeem to be two extremes, and ought to be avoided. The late ingenious Mr Locke, even in his inquiries after truth, makes great uſe of ſimilies for frequent

illuſtration, and is very happy in the invention of them though he warns us alſo leſt we miſtake them for concluſive arguments.

Yet let it be noted here, that a parable or a ſimilitude uſed by any author, may give a ſufficient proof of the true ſenſe and meaning of that author, provided that we draw not this ſimilitude beyond the ſcope and deſign for which it was brought: as when our Saviour affirms, Rev. iii 3. *I will come to thee as a thief*; this will plainly prove that he deſcribes the unexpectedneſs of his appearance, though it will by no means be drawn to ſignify any injuſtice in his deſign.

IX. Rule. *In your whole courſe of reaſoning keep your mind ſincerely intent in the purſuit of truth; and follow ſolid argument wherever it leads you.* Let not a party ſpirit, nor any paſſion or prejudice whatſoever, ſtop or avert the current of your reaſoning in queſt of true knowledge.

When you are inquiring therefore into any ſubject, maintain a due regard to the arguments and objections on both ſides of a queſtion: conſider, compare, and balance them well before you determine for one ſide. It is a frequent, but a very faulty practice to hunt after arguments, only to make good one ſide of a queſtion, and entirely to neglect and refuſe thoſe which favour the other ſide. If we have not given a due weight to arguments on both ſides, we do but wilfully miſguide our judgment, and abuſe our reaſon by forbidding its ſearch after truth. When we eſpouſe opinions by a ſecret biaſs on the mind through the influences of fear, hope, honour, credit, intereſt, or any other prejudice, and then ſeek arguments only to ſupport thoſe opinions, we have neither done our duty to God nor to ourſelves; and it is a matter of mere chance if we ſtumble upon truth in our ways to eaſe and preferment. The power of reaſoning was given us by our Maker for this very end, to purſue truth; and we abuſe one of his richeſt gifts, if we baſely yield up to be led aſtray by any of the meaner powers of nature, or the periſhing intereſts of this life. Reaſon itſelf, if honeſtly obeyed, will lead us to receive the divine revelation of the goſpel, where it is duly propoſed, and this will ſhew us the path of life everlaſting.

THE

FOURTH PART

OF

LOGIC.

OF DISPOSITION AND METHOD.

IT is not merely a clear and diſtinct idea, a well-formed propoſition, or a juſt argument that is ſufficient to ſearch out and communicate the knowledge of a ſubject. There muſt be a variety and ſeries of them diſpoſed in a due manner, in order to attain this end: and therefore it is the deſign of the laſt part of Logic to teach us the art of method. It is that muſt ſecure our thoughts from that confuſion, darkneſs, and miſtake which unavoidably attend the meditations and diſcourſes even of the brighteſt genius who deſpiſes the rules of it.

1. We ſhall here conſider the nature of method, and the ſeveral kinds of it.

2. Lay down the general rules of method, with a few particulars under them.

CHAP. I.

OF THE NATURE OF METHOD AND THE SEVERAL KINDS OF IT (VIZ.) NATURAL AND ARBITRARY SYNTHETIC AND ANALYTIC.

METHOD, taken in the largeſt ſenſe, implies the placing of ſeveral things, or performing ſeveral operations in ſuch an order as is moſt convenient to attain ſome end propoſed: and in this ſenſe it is applied to all the works of nature and art, to all the divine affairs of creation and providence; and to the artifices, ſchemes, contrivances and practices of mankind, whether in natural, civil, or ſacred affairs.

Now this orderly diſpoſition of things includes the ideas of prior, poſterior, and simultaneous; of ſuperior, inferior, and equal; of beginning, end, and middle, *&c.* which are deſcribed more particularly among the general affections of being in ontology.

But in Logic method is uſually taken in a more limited ſenſe, and the nature of it is thus deſcribed: method is the diſpoſition of a variety of thoughts on any ſubject, in ſuch order as may beſt ſerve to find out unknown truths, to explain and confirm truths that are known, or to fix them in the memory.

It is diſtributed into two general kinds, (viz.) natural and arbitrary.

Natural method is that which obſerves the order of nature, and proceeds in ſuch a manner as that the knowledge of the things which follow depends, in a great meaſure, on the things which go before, and this is twofold, (viz.) Synthetic and Analytic, which are ſometimes called Synthesis and Analysis*.

* The word Analyſis has three or four ſenſes, which it may not be improper to take notice of here.

1. It ſignifies the general and particular heads of a diſcourſe, with their mutual connections, both co-ordinate and ſubordinate, drawn out by way of abſtract into one or more tables, which are frequently placed like an index at the beginning or end of a book.

2. It ſignifies the reſolving of a diſcourſe into its various ſubjects

Synthetic method is that which begins with the parts *, and leads onward to the knowledge of the whole; it begins with the most simple principles, and general truths, and proceeds by degrees to that which is drawn from or compounded of them: and therefore it is called the method of composition.

Analytic method takes the whole compound *as it* finds it, whether it be a species or an individual, and leads us into the knowledge of it by resolving it into its first principles or parts, its generic nature, and its special properties; and therefore it is called the method of resolution.

As synthetic method is generally used in teaching the sciences, after they are invented, so analytic *is most* practised in finding out things unknown. *Though it* must be confessed that both methods are sometimes employed to find out truth, and to communicate it.

If we know the parts of any subject easier and better than the whole, we consider the parts distinctly, and by putting them together, we come to the knowledge of the whole. So in grammar we learn first to *know* letters, we join them to make syllables, out of *sylla-*

and arguments, as when any writing of the ancient prophets is resolved into the prophetical, historical, doctrinal, and practical parts of it; it is said to be analysed in general. When a sentence is distinguished into the Nouns, Verbs, Pronouns, Adverbs and other particles of speech which compose it, then it is said to be analysed grammatically. When the same sentence is distinguished into Subject and predicate, Proposition, Argument, Act, Object, Cause, Effect, Adjunct, Opposite, &c. then it is analysed logically, and metaphysically. This last is what is chiefly meant in the theological schools, when they speak of analysing a text of scripture.

3. Analysis signifies particularly the science of algebra, wherein a question being proposed, one or more letters, as, x, y, z, or vowels, as, a, e, i, &c. are made use of to signify the unknown number, which being intermingled with several known numbers in the question, is at last by the rules of art separated or released from that entanglement, and its particular value is found out by shewing its equation, or equality to some known number.

4. It signifies analytical method, as here explained in Logic.

* Note, It is confessed that synthesis often begins with the genus and proceeds to the species and individuals. But the genus or generic nature is then considered only as a physical or essential part of the species, though it be sometimes called an universal or logical whole. Thus synthetic method maintains its own description still, for it begins *with the parts*, and proceeds to the whole which is composed of them.

bles we compoſe words, and out of words we make ſentences and diſcourſes. So the phyſician or apothecary knows the nature and powers of his ſimples, (viz.) his drugs, his herbs, his minerals, *&c.* and putting them together, and conſidering their ſeveral virtues, he finds what will be the nature and powers of the bolus, or any compound medicine. This is the ſynthetic method.

But if we are better acquainted with the whole than we are with particular parts, then we divide or reſolve the whole into its parts, and thereby gain a diſtinct knowledge of them. So in vulgar life we learn in the groſs what plants or minerals are; and then by chymiſtry we gain the knowledge of ſalt, ſulphur, ſpirit, water, earth, which are the principles of them. So we are firſt acquainted with the whole body of an animal, and then by anatomy or diſſection we come to learn all the inward and outward parts of it. This is analytic method.

According to this moſt general and obvious idea of ſynthetic and analytic method, they differ from each other as the way which leads up from a valley to a mountain differs from itſelf, conſider as it leads down from the mountain to the valley; or as St Matthew and St Luke prove Chriſt to be the ſon of Abraham; Luke finds out by analyſis, riſing from Chriſt to his anceſtors; Matthew teaches it in the ſynthetic method, beginning from Abraham, and ſhewing that Chriſt is found among his poſterity. Therefore it is an uſual thing in the ſciences, when we have by analyſis found out a truth, we uſe ſynthetic method to explain and deliver it, and prove it to be true.

In this eaſy view of things, theſe two kinds of method may be preſerved conſpicuouſly, and entirely diſtinct: but the ſubjects of knowledge being infinite, and the ways whereby we arrive at this knowledge being almoſt infinitely various, it is very difficult, and almoſt impoſſible, always to maintain the preciſe diſtinction between theſe two methods.

This will evidently appear in the following obſervations.

Obſ. I. *Analytic method* being uſed chiefly to find out *things* unknown, it is not limited or confined mere-

ly to begin with ſome whole ſubject, and proceed to the knowledge of its parts, but it takes its riſe ſometimes from one ſingle part of property, or from any thing whatſoever that belongs to a ſubject which happens to be firſt and moſt eaſily known, and thereby inquiries into the more abſtruſe and unknown parts, properties, cauſes, effects, and modes of it, whether abſolute or relative; as for inſtance.

(1.) Analyſis finds out cauſes by their effects. So in the ſpeculative part of natural philoſophy, when we obſerve light, colours, motions, hardneſs, ſoftneſs, and other properties and powers of bodies, or any of the common or uncommon appearances of things either on earth, or in heaven, we ſearch out the cauſes of them. So by the various creatures we find out the *Creator*, and learn his wiſdom, power and goodneſs.

(2.) It finds out effects by their cauſes. So the practical and mechanical part of natural philoſophy conſiders ſuch powers of motion, as the wind, the fire, the water, *&c.* and then contrives what uſes they may be applied to, and what will be their effects in order to make mills and engines of various kinds.

(3.) It finds out the general and ſpecial nature of a thing by conſidering the various attributes of the individuals, and obſerving what is common, and what is proper, what is accidental, and what is eſſential. So by ſurveying the colour, the ſhape, motion, reſt, place, ſolidity, extenſion of bodies, we come to find that the nature of body in general is ſolid extenſion; becauſe all other qualities of bodies are changeable, but this belongs to all bodies, and it endures through all changes; and becauſe this is proper to a body alone, and agrees not to any thing elſe; and it is the foundation of all other properties.

(4.) It finds out the remaining properties or parts of a thing, by having ſome parts or properties given. So the area of a triangle is found by knowing the height and the baſe. So by having two ſides, and an angle of a triangle given, we find the remaining ſide and angles. So when we know cogitation is the prime attribute of a ſpirit, we infer its immateriality, and thence its immortality.

(5.) Analyſis finds the means neceſſary to attain a

propoſed end, by having the end firſt aſſigned. So in moral, political, œconomical affairs, having propoſed the government of ſelf, a family, a ſociety, or a nation, in order to their beſt intereſt, we conſider and ſearch out what are the proper laws, rules and means to effect it. So in the practices of artificers, and the manufactures of various kinds, the end being propoſed, as, making cloth, houſes, ſhips, *&c.* we find out ways of compoſing theſe things for the ſeveral uſes of human life. But the putting any of theſe means in execution to attain the end, is ſynthetic method.

Many other particulars might be repreſented, to ſhew the various forms of analytic method, whereby truth is found out, and ſome of them come very near to ſynthetic, ſo as hardly to be diſtinguiſhed.

Obſ. II. Not only the inveſtigation of truth, but the communication of it alſo is often practiſed in ſuch a method, as neither agrees preciſely to ſynthetic nor analytic. Some ſciences, if you conſider the whole of them in general, are treated in ſynthetic order; ſo phyſics, or natural philoſophy, begins uſually with an account of the general nature and properties of matter or bodies, and by degrees deſcends to conſider the particular ſpecies of bodies, with their powers and properties; yet it is very evident, that when philoſophers come to particular plants and animals, then by chymiſtry and anatomy they analyſe or reſolve theſe bodies into their ſeveral conſtituent parts. On the other hand, Logic is begun in analytic method; the whole is divided into its integral parts, according to the four operations of the mind; yet here and there ſynthetic method is uſed in the particular branches of it, for it treats of the ideas in general firſt, and then deſcends to the ſeveral ſpecies of them; it teaches us how propoſitions are made up of ideas, and ſyllogiſms of propoſitions, which is the order of compoſitions.

The ancient ſcholaſtic writers have taken a greater deal of pains, and engaged in uſeleſs diſputes about theſe two methods; and after all have not been able to give ſuch an account of them as to keep them entirely diſtinct from each other, neither in the theory nor in the practice. Some of the moderns have avoided this confuſion in ſome meaſure, by confining themſelves to

deſcribe almoſt nothing elſe but the ſynthetic and analytic methods of geometricians and algebraiſts, whereby they have too much narrowed the nature and rules of method, as though every thing were to be treated in mathematical forms.

Upon the whole I conclude, that neither of *theſe* two methods ſhould be too ſcrupulouſly and *ſuperſti*tiouſly purſued, either in the invention or in the communication of knowledge. It is enough if the order of nature be but obſerved in making the knowledge of things following depend on the knowledge of the things which go before. Oftentimes a mixed method will be found moſt effectual for theſe purpoſes; and indeed a wiſe and judicious proſpect of our *main* end and deſign muſt regulate all method whatſoever.

Here the rules of natural method ought to be propoſed, (whether it be analytic, or ſynthetic, or mixt:) but it is proper firſt to give ſome account of arbitrary method, leſt it be thruſt at too great a diſtance from the firſt mention of it.

Arbitrary method leaves the order of nature, and accommodates itſelf to many purpoſes; ſuch as, to treaſure up things, and retain them in memory; to harangue and perſuade mankind to any practice in the religious or civil life; or to delight, amuſe, or entertain the mind.

As for the aſſiſtance of the memory, in moſt things, a natural order has an happy influence; for reaſon itſelf deducing one thing from another, greatly aſſiſts the memory, by the natural connection and mutual dependence of things. But there are various other methods which mankind have made uſe of for this purpoſe, and indeed there are ſome ſubjects that can hardly be deduced to analyſis or ſyntheſis.

In reading or writing hiſtory, ſome follow the order of the governors of a nation, and diſpoſe every tranſaction under their particular reigns: ſo the ſacred books of Kings and Chronicles are written. Some write in annals or journals, and make a new chapter of every year. Some put all thoſe tranſactions together which relate to one ſubject: that is, all the affairs of one war, one league, one confederacy, one council, &c. though *it laſt* many years, and under many rulers.

So in writing the lives of men, which is called Biography, ſome authors follow the tract of their years, and place every thing in the preciſe order of time when it occurred: others throw the temper and characters of the perſons, their private life, their public ſtations, their perſonal occurrences, their domeſtic conduct, their ſpeeches, their books or writings, their ſickneſs and death, into ſo many diſtinct chapters.

In chronology, ſome writers makes their epochas to begin all with one letter: ſo in the book called *Ductor Hiſtoricus*, the periods all begin with C; as, Creation, Cataclyſm or deluge, Chaldean empire, Cyrus, Chriſt, Conſtantine, *&c.* Some divide their accounts of time according to the four great monarchies, Aſſyrian, Perſian, Grecian and Roman. Others think it ſerves the memory beſt to divide all their ſubjects into the remarkable number of ſevens; ſo Prideaux has written an Introduction to Hiſtory. And there is a book of divinity called *Faſciculus Controverſiarum*, by an author of the ſame name, written in the ſame method, wherein every controverſy has ſeven queſtions belonging to it; though the order of nature ſeems to be too much neglected by a confinement to this ſeptenary number.

Thoſe writers and ſpeakers, whoſe chief buſineſs is to amuſe and delight, or allure, terrify, or perſuade mankind, do not confine themſelves to any natural order, but in a cryptical or hidden method adapt every thing to their deſigned ends. Sometimes they omit thoſe things which might injure their deſign, or grow tedious to their hearers though they ſeem to have a neceſſary relation to the point in hand: ſometimes they add thoſe things which have no great reference to the ſubject, but are ſuited to allure or refreſh the mind and the ear. They dilate ſometimes, and flouriſh long upon little incidents, and they ſkip over, and but lightly touch the drier part of their theme. They place the firſt things laſt, and the laſt things firſt, with wondrous art, and yet ſo manage it as to conceal their artifice, and lead the ſenſes and paſſions of their hearers into a pleaſing and powerful captivity.

It is chiefly poeſy and oratory that requires the practice of this kind of arbitrary method: they omit things eſſential which are not beautiful, they inſert little needleſs

leſs circumſtances, and beautiful digreſſions, they invert time and actions, in order to place every thing in the moſt affecting light, and for this end in their practice they neglect all logical forms; yet a good acquaintance with the forms of Logic and natural method, is of admirable uſe to thoſe who would attain theſe arts in perfection. Hereby they will be able to range *their* own thoughts in ſuch a method and ſcheme, as to make a more large and comprehenſive ſurvey of their ſubject and deſign in all the parts of it; and by this means they will better judge what to chuſe and what to refuſe; and how to dreſs and manage the whole ſcene before them, ſo as to attain their own ends with greater glory and ſucceſs.

CHAP. II.

The Rules of Method, General and Special.

THE general requiſites of true method in the purſuit or communication of knowledge, may be all compriſed under the following heads. It muſt be (1.) Safe. (2.) Plain and eaſy. (3.) Diſtinct. (4.) Full, or without defect. (5.) Short or without ſuperfluity. (6.) Proper to the ſubject and the deſign. (7.) Connected.

I. Rule. Among all the qualifications of a good method, there is none more neceſſary and important than that it ſhould be ſafe and ſecure from error; and to this end theſe four particular, or ſpecial directions ſhould be obſerved.

1. *Uſe great care and circumſpection in laying the foundations of your diſcourſe, or your ſcheme of thoughts upon any ſubject.* Theſe propoſitions which are to ſtand as firſt principles, and on which the whole argument depends, muſt be viewed on all ſides with the utmoſt accuracy, leſt an error, being admitted there, ſhould diffuſe itſelf through the whole ſubject. See therefore that your general definitions or deſcriptions are as accurate as the nature of the thing will bear: See that your general diviſions and diſtributions be juſt and

exact, according to the rules given in the firſt part of Logic: See that your axioms be ſufficiently evident, ſo as to demand the aſſent of thoſe that examine them with due attention. See that your firſt and more immediate conſequences from theſe principles be well drawn; and take the ſame care of all other propoſitions that have a powerful and ſpreading influence through the ſeveral parts of your diſcourſe.

For want of this care ſometimes a large treatiſe has been written by a long deduction of conſequences from one or two doubtful principles, which principles have been effectually refuted in a few lines, and thus the whole treatiſe has been deſtroyed at once; ſo the largeſt and faireſt buildings ſink and tumble to the ground, if the foundations and corner-ſtones of it are feeble and inſufficient.

2. It is a very adviſeable thing that your primary and fundamental propoſitions be not only evident and true, but they ſhould be made a little familiar to the mind, by dwelling upon them before you proceed farther. By this means you will gain ſo full an acquaintance with them, that you may draw conſequences from them with much more freedom, with greater variety, brighter evidence, and with a firmer certainty, than if you have but a ſlight and ſudden view of them.

3. As you proceed in the connection of your arguments, ſee that your ground be made firm in every ſtep. See that every link of your chain of reaſoning be ſtrong and good: for if but one link be feeble and doubtful, the whole chain of arguments feels weakneſs of it, and lies expoſed to every objector, and the original queſtion remains undetermined.

4. *Draw up all your propoſitions and arguments with ſo much caution, and expreſs your ideas with ſuch a juſt limitation, as may preclude or anticipate any objections.* Yet remember this is only to be done as far as it is poſſible, without too much entangling the queſtion, or introducing complicated ideas, and obſcuring the ſenſe. But if ſuch a cautious and limited dreſs of the queſtion ſhould render the ideas too much complicated, or the ſenſe obſcure, then it is better to keep the argument more ſimple, clear and eaſy to be underſtood, and af-

terwards mention the objections diſtinctly in their full ſtrength, and give a diſtinct anſwer to them.

II. Rule. *Let your method be plain and eaſy*, ſo that your hearers or readers, as well as yourſelf, may run thro' it without embarraſſment, and may take a clear and comprehenſive view of the whole ſcheme. To this end the following particular directions will be *uſeful*.

1. *Begin always with thoſe things which are beſt known, and moſt obvious, whereby the mind may have no difficulty or fatigue, and proceed by regular and eaſy ſteps to things that are more difficult.* And as far as poſſible let not the underſtanding, or the proof of any of your poſitions depend on the poſitions that follow but always on thoſe which go before. It is a matter of wonder that in ſo knowing an age as this, there ſhould be ſo *many* perſons offering violence daily to this rule, by teaching the Latin language by a grammar written in Latin, which method ſeems to require a perfect knowledge of an unknown tongue, in order to learn the firſt rudiments of it.

2. *Do not effect exceſſive haſte in learning or teaching any ſcience, nor hurry at once into the midſt of it*, leſt you be too ſoon involved in ſeveral new and ſtrange ideas and propoſitions, which cannot be well underſtood without a longer and cloſer attention to thoſe which go before. Such ſort of ſpeech is but a waſte of time, and will conſtrain you to take many ſteps backward again, if you would arrive at a regular and complete knowledge of the ſubject.

3. *Be not fond of crowding too many thoughts and reaſonings into one ſentence or paragraph, beyond the apprehenſion or capacity of your readers or hearers.* There are ſome perſons of good genius, and a capacious mind, who write and ſpeak very obſcurely upon this account; they effect a long train of dependencies, before they come to a period; they imagine that they can never fill their page with too much ſenſe; but they little think how they bury their own beſt ideas in the crowd, and render them in a manner inviſible and uſeleſs to the greateſt part of mankind. Such men may be great ſcholars, yet they are but poor teachers.

4 For the ſame reaſon, *avoid too many ſubdiviſions*. Contrive your ſcheme of thoughts in ſuch manner as

may finiſh your whole argument with as few inferior branchings as reaſon will admit; and let them be ſuch as are obvious and open to the underſtanding that they may come within one ſingle view of the mind. This will not only aſſiſt the underſtanding to receive, but it will aid the memory alſo to retain truth: whereas a diſcourſe cut out into a vaſt multitude of gradual ſubordinations has many inconveniences in it; it gives pain to the mind and memory, in ſurveying and retaining the ſcheme of diſcourſe, and expoſes the unſkilful hearers to mingle the ſuperior and inferior particulars together, it leads them into a thick wood, inſtead of open day-light, and places them in a labyrinth inſtead of a plain path.

5. *Give all diligence in your younger years to obtain a clear and eaſy way of expreſſing your conceptions*, that your words, as faſt as you utter them, may ſtamp your ideas exactly on the mind of the hearer. This is a moſt happy talent for the conveyance of truth, and an excellent ſecurity againſt miſtakes and needleſs controverſies.

III. Rule. *Let your method be diſtinct*, and without the perplexing mixture of things that ought to be kept ſeparate, and this will be eaſily practiſed by four directions.

1. Do not bring unneceſſary heterogeneous * matter in your diſcourſe on any ſubject; that is, do not mingle an argument on one ſubject with matters that relate entirely to another, but juſt ſo far as is neceſſary to give a clearer knowledge of the ſubject in hand. Examples in Logic may be borrowed from any of the ſciences to illuſtrate the rules: but long interpoſitions of natural philoſophy, of the imagination and paſſions, of agency of ſpirit united to bodies, &c. break the thread of diſcourſe, and perplex the ſubject.

2. *Let every complicated theme or idea be divided into its diſtinct ſingle parts, as far as the nature of the ſubject, and your preſent deſign requires it.* Though you muſt not abound in needleſs ſubdiviſions, yet ſomething of this work is very neceſſary; and it is good judgment alone can dictate how far to proceed in it, and when to ſtop.

* Things of one kind are called homogeneous, things of different kinds are called heterogeneous.

Compound ideas muſt be reduced to a ſimple form, in order to underſtand them well. You may eaſily maſter that ſubject in all the parts of it by a regular ſucceſſion, which would confound the underſtanding to ſurvey them at once. So we come to the knowledge of a very perplexed diagram in geometry, or a complicated machine in mechanics, by having it parcelled out to us into its ſeveral parts and principles, according to this, and the foregoing rule of method.

3. *Call every idea, propoſition and argument to its proper claſs, and keep each part of the ſubject in its own place.* Put thoſe things all together that belong to one part or property, one conſideration or view of your ſubject. This will prevent needleſs repetitions, and keep you from intermixing things which are different. We muſt maintain this diſtinction of things and places, if we would be ſafe from error. It is confuſion that leads us into endleſs miſtakes, which naturally ariſe from a variety of ideas ill-joined, ſorted, or ill-diſpoſed. It is one great uſe of method, that multitude of thoughts and propoſitions may be ſo diſtinctly ranged in their proper ſituations, that the mind may not be overwhelmed with a confuſed attention to them all at once, nor be diſtracted with their variety, nor be tempted to unite things which ought to be ſeparated, nor disjoin things which ſhould be united.

4. *In the partition of your diſcourſe into diſtinct heads, take heed that your particulars do not interfere with the general, nor with each other.* Think it is not enough that you make uſe of diſtinct expreſſions in each particular, but take care that the ideas be diſtinct alſo. It is mere foolery to multiply diſtinct particulars in treating of things, where the difference of your particulars lie only in names and words.

IV. Rule. The method of treating a ſubject ſhould be plenary or full, ſo that nothing may be wanting; nothing which is neceſſary or proper ſhould be omitted.

When you are called to explain a ſubject, do not paſs by, nor ſkip over any thing in it which is very difficult or obſcure.

When you enumerate the parts or the properties of any ſubject, do it in a complete and comprehenſive manner.

When you are aſſerting or proving any truth, ſee that every doubtful or diſputable part of the argument be well ſupported and confirmed.

If you are to illuſtrate or argue a point of difficulty, be not too ſcanty of words, but rather become a little copious and diffuſive in your language: ſet the truth before the reader in ſeveral lights, turn the various ſides of it to view, in order to give a full idea and firm evidence of the propoſition.

When you are drawing up a narrative of any matter or fact, ſee that no important circumſtance be omitted.

When you propoſe the ſolution of any difficulty, conſider all the various caſes wherein it can happen, and ſhew how they may be ſolved.

In ſhort, let your enumerations, your diviſions, and diſtributions of things be ſo accurate, that no needful part or idea be left out.

This fulneſs of method does not require that every thing ſhould be ſaid which can be ſaid upon any ſubject; for this would make each ſingle ſcience endleſs: But you ſhould ſay every thing which is neceſſary to the deſign in view, and which has a proper and direct tendency to this end; always proportioning the amplitude of your matter, and the fulneſs of your diſcourſe to your great deſign, to the length of your time, to the convenience, delight and profit of your hearers.

V. Rule. *As your method muſt be full without deficiency, ſo it muſt be ſhort, or without ſuperfluity.* The fulneſs of a diſcourſe enlarges our knowledge, and the well concerted brevity ſaves our time. In order to obſerve this rule, it wil be enough to point out the chief of thoſe ſuperfluities or redundances, which ſome perſons are guilty of in their diſcourſes, with a due caution againſt them.

1. *Avoid all needleſs repetitions of the ſame thing in different parts of your diſcourſe.* It muſt be confeſſed there are ſeveral caſes wherein a review of the ſame foregoing propoſition is needful to explain or prove ſeveral of the following propoſitions; but let your method be ſo contrived, as far as poſſible, that it may occaſion the feweſt rehearſals of the ſame thing; for it is not grateful to the hearers without evident neceſſity.

2. *Have a care of tedious prolixity, or drawing out any part of your diſcourſe to an unneceſſary and tireſome length.* It is much more honourable for an inſtructor, an orator, a pleader, or a preacher, that his hearers ſhould ſay, I was afraid he would have done, than that they ſhould be tempted to ſhew ſigns of uneaſineſs, and long for the concluſion.

Beſides, there is another inconvenience in it; when you affect to amplify on the former branches of a diſcourſe, you will often lay a neceſſity upon yourſelf of contracting the latter and moſt uſeful parts of it, and perhaps prevent yourſelf in the moſt important part of your deſign. Many a preacher has been guilty of this fault in former days, nor is the preſent age without ſome inſtances of this weakneſs.

3. *Do not multiply explications where there is no difficulty, or darkneſs, or danger of miſtake.* Be not fond of tracing every word of your theme through all the grammatical, the logical and metaphyſical characters and relations of it; nor ſhew your critical learning in ſpreading abroad the various ſenſes of a word, and the various origin of thoſe ſenſes, the etymology of terms, the ſynonymous and the paronymous or kindred names, &c. where the chief point of diſcourſe does not at all require it. You would laugh at a pedant, who profeſſing to explain the Athanaſian Creed, ſhould acquaint you, that Athanaſius is derived from a Greek word which ſignifies immortality, and that the ſame word (Athanaſia) ſignifies alſo the herb Tanſie.

There are ſome perſons ſo fond of their learned diſtinctions, that they will ſhew their ſubtlety by diſtinguiſhing where there is no difference: and the ſame ſilly affectation will introduce diſtinctions upon every occurrence, and bring three or four negatives upon every ſubject or diſcourſe; firſt to declare what it is not, and then what it is: whereas ſuch negatives ought never to be mentioned where there is no apparent danger of miſtake. How ridiculous would that writer be, who, if he were ſpeaking of the Nicene Creed, ſhould declare negatively, 1. That he did not mean the doctrine which the inhabitants of Nice believed, nor 2. A creed written by them, but 3 Poſitively a creed compoſed by ſeveral Chriſtian biſhops met together in the city of

Nice? The positive is sufficient here, and the two negatives are impertinent.

4. *Be not fond of proving those things which need no proof*, such as self-evident propositions and truths universally confessed, or such as are entirely agreed to and granted by our opponents. It is this vain affectation of proving every thing that has led geometricians to form useless and intricate demonstrations to support some theorems, which are sufficiently evident to the eye by inspection, or to the mind by the first mention of them; and it is the same humour that reigns sometimes in the pulpit, and spends half the sermon in proving some general truth which is never disputed or doubted, and thereby robs the auditory of more useful entertainment.

5. As there are some things so evidently true, that they want no proof, so there are others so evidently false, that they want no refutation. It is mere trifling, and a waste of our precious moments, to invent and raise such objections as no man would ever make in earnest, and that merely for the sake of answering and solving them: this breaks in notoriously upon the due brevity of method.

6. *Avoid in general all learned forms, all trappings of art, and ceremonies of the schools, where there is no need of them.* It is reported concerning the late Czar of Muscovy, that when he first acquainted himself with mathematical learning, he practised all the rules of circumvallation and contravallation at the sige of a town in Livonia; and by the length of those formalities he lost the opportunity of taking the town.

7. *Do not suffer every occasional and incidental thought to carry you away into a long parentheses, and thus to stretch out your discourse, and divert you from the point in hand.* In the pursuit of your subject, if any useful thought occur which belongs to some other theme, note it down for the sake of your memory on some other paper, and lay it by in reserve for its proper place and season: but let it not incorporate itself with your present theme, nor draw off your mind from your main business, though it should be ever so inviting. A man, who walks directly but slowly towards his journey's end, will arrive thither much sooner than his neighbour, who runs into every crooked turning which he meets,

and wanders aſide to gaze at every thing that ſtrikes his eyes by the way, or to gather every gaudy flower that grows by the ſide of the road.

To ſum up all; there is an happy medium to be obſerved in our method, ſo that the brevity may not render the ſenſe obſcure, nor the argument feeble, nor our knowledge merely ſuperficial: and on the *other* hand, that the fulneſs and copiouſneſs of our method may not waſte the time, tire the learner, or fill the mind with trifles and impertinencies.

The copious and the contracted way of writing have each their peculiar advantages. There is a proper uſe to be made of large paraphraſes, and full, particular, and diffuſive explications and arguments; theſe are fitteſt for thoſe who deſign to be acquainted thoroughly *with* every part of the ſubject. There is alſo an uſe of ſhorter hints, abſtracts and compendiums to inſtruct thoſe who ſeek only a ſlight and general knowledge, as well as to refreſh the memory of thoſe who have learned the ſcience already, and gone through a larger ſcheme. But it is a groſs abuſe of theſe various methods of inſtruction, when a perſon has read a *mere* compend or epitome of any ſcience, and he vainly imagines that he underſtands the whole ſcience. So one boy may become a philoſopher by reading over the mere dry definitions and diviſions of Scheibler's compendium of Peripateciſm: ſo another may boaſt that he underſtands Anatomy, becauſe *he has ſeen* a ſkeleton; and a third profeſs himſelf a learned *divine*, when he can repeat the apoſtles creed.

VI. Rule. Take care that your method be proper to the ſubject in hand, proper to your preſent deſign, as well as proper to the age and place wherein they dwell.

1. Let your method be proper to the ſubject. All ſciences muſt not be learned or taught in one method. Morality and theology, metaphyſics, and logic will not be eaſily and happily reduced to a ſtrict mathematical method: thoſe who have tried have found much inconvenience therein.

Some things have more need to be explained than to be proved; as axioms or ſelf-evident propoſitions; and indeed all the firſt great principles, the chief and moſt important doctrines both of natural and revealed

religion; for when the ſenſe of them is clearly explained, they appear ſo evident in the light of nature or ſcripture, that they want no other proof. There are other things that ſtand in need of proofs as well as explication, as many mathematical theorems, and ſeveral deep controverſies in morality, and divinity. There are yet other ſorts of ſubjects which want rather to be warmly impreſſed upon the mind by fervent exhortations, and ſtand more in need of this than they do either of proof or explication; ſuch are the moſt general plain and obvious duties of piety towards God, and love towards men, with a government of all our inclinations and paſſions. Now theſe ſeveral ſubjects ought to be treated in a different manner and method.

Again, There are ſome ſubjects in the ſame treatiſe which are more uſeful and neceſſary than others, and ſome parts of a ſubject which are eminently and chiefly deſigned by a writer or ſpeaker: true method will teach us to dwell longer upon theſe themes, and to lay out more thought and language upon them; whereas the ſame art of method will teach us to cut ſhort thoſe things which are uſed only to introduce our main ſubject, and to ſtand as a ſcaffolding merely to aid the ſtructure of our diſcourſe. It will teach us alſo to content ourſelves with brief hints of thoſe matters which are merely occaſional and incidental.

2. Your method muſt be adjuſted by your deſign; for if you treat of the ſame ſubject with two different views and deſigns, you will find it neceſſary to uſe different methods. Suppoſe the doctrine of the ſacred Trinity were your theme, and you were to read a lecture to young ſtudents on that ſubject, or if you deſigned a treatiſe for the conviction of learned men, you would purſue a very different method from that which would be proper to regulate a practical diſcourſe or a ſermon to inſtruct vulgar Chriſtians merely in the pious improvement of this doctrine, and awaken them to their duties which are derived thence.

In ſhort, we muſt not firſt lay down certain and preciſe rules of method, and reſolve to confine the matter we diſcourſe of to that particular form and order of topics; but we muſt well conſider and ſtudy the ſubject

of our diſcourſe thoroughly, and take a juſt ſu
our preſent deſign, and theſe will give ſufficie
of the particular form and order in which we
handle it, provided that we are moderately fi
the general laws of method and order.

Yet let it be noted here, that neither the ſubje
matter of a diſcourſe, nor the particular deſig
can ſo preciſely determine the method, as to l
room for liberty and variety. The very ſame
may be handled, and that alſo with the ſame
in ſeveral different methods, among which it
to ſay which is the beſt. In writing a ſyſtem
nity, ſome begin with the ſcriptures, and thence
all other doctrines and duties. Some begin w
being of God and his attributes, ſo far as he is l
by the light of nature, and then proceed to the do
of revelation. Some diſtinguiſh the whole ſubj
to the Credenda and Agenda, that is, things to
lieved, and things to be done. Some think it
to explain the whole Chriſtian religion by an hi
detail of all the diſcoveries which God has m
himſelf in his lower world, beginning at the cr
in the firſt chapter of Geneſis, and ſo proceedir
ward according to the narrative of the Old an
Teſtament. And there are others that endeav
include the whole of religion under theſe four
(viz.) the Apoſtles Creed, the Lord's Prayer, t
Commandments, and the two Sacraments; tho
cannot but think this is the leaſt accurate of any.
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this very treatiſe of Logic is an inſtance of it,
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muſt be ſome little difference at leaſt paid to the
of the age wherein we dwell, and to the humo
genius of our readers or hearers, which if we
reject and diſdain, our performances will fail of
ſucceſs, even though we may have followed t
rules of method. I will mention but this one inſ

in the former century it was frequent with learned men to divide their theme or ſubject into a great multitude of co-ordinate members or parts, they abounded alſo in the forms of Logic and diſtinction, and indulged numerous ranks of ſubordination. Now though we ought not to abandon the rules of juſt method and diviſion, in order to comport with the modiſh writers in our age who have renounced them; yet it is prudent to pay ſo much reſpect to the cuſtom of the age, as to uſe theſe forms of diviſion with due moderation, and not effect to multiply them in ſuch a manner, as to give an early and needleſs diſguſt to the generality of our preſent readers. The ſame may be ſaid concerning various other methods of conduct in the affairs of learning, as well as in the affairs of life, wherein we muſt indulge a little to cuſtom: and yet we muſt by no means ſuffer ourſelves ſo far to be impoſed upon and governed by it, as to neglect thoſe rules of method, which are neceſſary for the ſafe, eaſy and complete inquiry into truth, or the ready and effectual communication of it to others.

VII. Rule. The laſt requiſite of method is, that the parts of a diſcourſe ſhould be well connected; and theſe three ſhort directions will ſuffice for this purpoſe.

1. Keep your main end and deſign ever in view, and let all the parts of your diſcourſe have a tendency towards it, and as far as poſſible make that tendency viſible all the way: otherwiſe the readers or hearers will have reaſon to wonder for what end this or that particular was introduced.

2. Let the mutual relation and dependence of the ſeveral branches of your diſcourſe be ſo juſt and evident, that every part may naturally lead onward to the next, without any huge chaſms or breaks which interrupt and deform the ſcheme. The connection of truths ſhould ariſe and appear in their ſucceſſive ranks and order, as the ſeveral parts of a fine proſpect aſcend juſt behind each other, in their natural and regular elevations and diſtances, and invite the eye to climb onward with conſtant pleaſure till it reach the ſky. Whatſoever horrid beauty a precipice or a cataract may add to the proſpect of a country, yet ſuch ſort of hedious and abrupt appearances in a ſcene of reaſon-

ing are real blemiſhes and not beauties. When the reader is paſſing over ſuch a treatiſe, he often finds a wide vacancy, and makes an uneaſy ſtop, and knows not know to tranſport his thoughts over to the next particular, for want of ſome clue or connecting idea to lay hold of.

3. Acquaint yourſelf with all the proper and decent forms of tranſition from one part of a diſcourſe to another, and practiſe them as occaſion offers. Where the ideas, propoſitions and arguments, are happily diſpoſed, and well connected, the truth indeed is ſecure; but it renders the diſcourſe much more agreeable, when proper and graceful expreſſion joins the parts of it together in ſo entertaining a manner, that the reader knows not how to leave off till he hath arrived at the end.

Theſe are the general and moſt important rules of true method; and though they belong chiefly to the communication of knowledge, yet an early and thorough acquaintance with them will be of conſiderable uſe towards the purſuit and attainment of it.

Thoſe perſons who have never any occaſion to communicate knowledge by writing or by public diſcourſes, may alſo with great advantage peruſe theſe rules of method, that they may learn to judge with juſtice and accuracy concerning the performances of others. And beſides, a good acquaintance with method, will greatly aſſiſt every one in ranging, diſpoſing and managing all human affairs.

The particular means or methods for a farther improvement of the underſtanding are very various, ſuch as, meditation, reading, converſing, diſputing by ſpeech or by writing, queſtion and anſwer, &c. And in each of theſe practices ſome ſpecial forms may be obſerved, and ſpecial rules may be given to facilitate and ſecure our inquiries after truth: but this would require a little volume by itſelf, and a treatiſe of Logic has always been eſteemed ſufficiently complete without it.

FINIS.

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